



STIC Search Report

EIC 3600

STIC Database Tracking Number: 170527

TO: Examiner Pierre Elisca
Location: 2-6706
Art Unit : 3621
Saturday, November 05, 2005
Case Serial Number: 09/817167

From: Ginger Roberts DeMille
Location: EIC 3600
KNX 4B59
Phone: 2-3522
Ginger.demille@uspto.gov

Search Notes

Dear Examiner Elisca:

Please find attached the results of your search for 09/817167.

The search was conducted using the mandatory database lists for Business Methods.

These other sources were also used: Internet

If you have any questions, please do not hesitate to contact me.

Thanks for using EIC3600!

Ginger



STIC EIC 3600

Search Request Form

210

170527

JAMES D. TRAMMELL
SUPERVISORY PATENT EXAMINER
705/1111 Subclass 300

Today's Date:

What date would you like to use to limit the search? For 705/1111 Subclass

Name EISCA PIERRE
AU 3621 Examiner # 74461
Room # 5A55 Phone 2-6706
Serial # 09/817,167

Format for Search Results (Circle One):

PAPER DISK EMAIL

Where have you searched so far?

USP DWPI EPO JPO ACM IBM TDB
IEEE INSPEC SPI Other _____

Is this a "Fast & Focused" Search Request? (Circle One) YES NO

A "Fast & Focused" Search is completed in 2-3 hours (maximum). The search must be on a very specific topic and meet certain criteria. The criteria are posted in EIC3600 and on the EIC3600 NPL Web Page at <http://ptoweb/patents/stic/stic-tc3600.htm>.

What is the topic, novelty, motivation, utility, or other specific details defining the desired focus of this search? Please include the concepts, synonyms, keywords, acronyms, definitions, strategies, and anything else that helps to describe the topic. Please attach a copy of the abstract, background, brief summary, pertinent claims and any citations of relevant art you have found.

See Attached

STIC Searcher

Date picked up

James D. Trammell Phone 2-3522
11-5-2005 Date Completed 11-5-2005

? show files;ds
File 350:Derwent WPIX 1963-2005/UD,UM &UP=200571
 (c) 2005 Thomson Derwent
File 344:Chinese Patents Abs Aug 1985-2005/May
 (c) 2005 European Patent Office
File 347:JAPIO Nov 1976-2005/Jul(Updated 051102)
 (c) 2005 JPO & JAPIO
File 371:French Patents 1961-2002/BOPI 200209
 (c) 2002 INPI. All rts. reserv.
File 2:INSPEC 1898-2005/Oct w4
 (c) 2005 Institution of Electrical Engineers
File 35:Dissertation Abs Online 1861-2005/Oct
 (c) 2005 ProQuest Info&Learning
File 65:Inside Conferences 1993-2005/Oct w5
 (c) 2005 BLDS all rts. reserv.
File 99:Wilson Appl. Sci & Tech Abs 1983-2005/Oct
 (c) 2005 The HW Wilson Co.
File 256:TecInfoSource 82-2005/Jan
 (c) 2005 Info.Sources Inc
File 474:New York Times Abs 1969-2005/Nov 04
 (c) 2005 The New York Times
File 475:Wall Street Journal Abs 1973-2005/Nov 04
 (c) 2005 The New York Times
File 583:Gale Group Globalbase(TM) 1986-2002/Dec 13
 (c) 2002 The Gale Group
File 23:CSA Technology Research Database 1963-2005/Oct
 (c) 2005 CSA.
File 56:Computer and Information Systems Abstracts 1966-2005/oct
 (c) 2005 CSA.
File 94:JICST-EPlus 1985-2005/Aug w4
 (c) 2005 Japan Science and Tech Corp(JST)

| Set | Items | Description |
|-----|--------|--|
| S1 | 5054 | DRM OR DIGITAL()RIGHTS OR RIGHTS()MANAGEMENT OR ACCESS?(2N-)RIGHTS |
| S2 | 572133 | RENDER? OR (GENERAT? OR CREAT? OR CONSTRUCT? OR DEVELOP? OR BUILD? OR PRODUC? OR PROPAGAT? OR COMPOS?)(3N)(IMAGE? ? OR G- RAPHIC? ? OR PICTURE? ? OR PHOTO?) |
| S3 | 1170 | LICENSE? ?(3N)SERVER? ? OR FLEXIM OR LICENSE? ?(2W)(MANAGE- MENT OR MANAGER OR STORAGE) |
| S4 | 221 | (ACQUIR? OR DOWNLOAD? OR DOWN()LOAD? OR ACCESS? OR OBTAIN? OR RETREIV? OR ACQUIS?)(6N)(DIGITAL? OR ELECTRONIC? OR DIGI)(- N)LICENSE? ? OR OCX |
| S5 | 149530 | SHUTDOWN OR SHUT? ?()DOWN OR SHUTTING()DOWN OR SLEEP? OR Q- UIET |
| S6 | 3 | S2 AND S3 AND S4 |
| S7 | 1 | S5 AND S6 |
| S8 | 2 | S6 NOT S7 |
| S9 | 23 | S2 AND S4 |
| S10 | 20 | S9 NOT S6 |
| ? | | |

? t7/4/

7/4/1 (Item 1 from file: 350)
DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

IM- *Image available*
AA- 2003-417328/200339|
XR- <XRXPX> N03-332741|
TI- Digital content license acquisition method in Internet based multi-media distribution, involves allowing user to communicate with license server by way of browser hosted by rendering application to acquire license|
PA- GANESAN K (GANE-I); MCKUNE J R (MCKU-I); MOHAMMED S B (MOHA-I); OLSON K J (OLSO-I)|
AU- <INVENTORS> GANESAN K; MCKUNE J R; MOHAMMED S B; OLSON K J|
NC- 001|
NP- 001|
PN- US 20030028488 A1 20030206 US 2001817167 A 20010326 200339 B|
AN- <LOCAL> US 2001817167 A 20010326|
AN- <PR> US 2001817167 A 20010326|
LA- US 20030028488(39)|
AB- <PN> US 20030028488 A1|
AB- <NV> NOVELTY - A rendering application (34) on a computing device (14) hosts browser and causes the browser to navigate the license server . A user is allowed to communicate with the license server by way of the hosted browser to acquire the license. The hosted browser is shutdown upon receiving the license by hosting rendering application.|
AB- <BASIC> DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:
 (1) computer readable medium storing digital content license acquisition program;
 (2) computing device;
 (3) method of rendering application on computing device; and
 (4) computer readable medium storing rendering application program.
 USE - For acquiring license related to multi-media in Internet based multi-media distribution.
 ADVANTAGE - Prevents unauthorized copying of digital content by performing effective authentication.
 DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of user's computing device.
 computing device (14)
 rendering application (34)
 pp; 39 DwgNo 4/14|
DE- <TITLE TERMS> DIGITAL; CONTENT; LICENCE; ACQUIRE; METHOD; BASED; MULTI; MEDIUM; DISTRIBUTE; ALLOW; USER; COMMUNICATE; LICENCE; SERVE; WAY; RENDER ; APPLY; ACQUIRE; LICENCE|
DC- T01|
IC- <MAIN> G06F-017/60|
IC- <ADDITIONAL> H04K-001/00; H04L-009/00|
MC- <EPI> T01-N01D1; T01-N02B1A; T01-S03|
FS- EPI||
?

? t8/4/all

8/4/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

IM- *Image available*

AA- 2001-210824/200121|

DX- <RELATED> 2000-611744; 2000-647267; 2000-647268; 2001-090815;
2001-191170; 2001-210825; 2001-496746; 2001-522158; 2001-522159;
2001-596328; 2001-596397; 2002-279866; 2002-350656; 2002-392575;
2003-522656; 2005-617252|

XR- <XRPX> N01-150657|

TI- Digital content package applicable for access to digital content
has license acquisition information including location of digital
license provider, and package ID for identifying digital content and
package|

PA- MICROSOFT CORP (MICT)|

AU- <INVENTORS> ABBURI R; BELL J R C; BLINN A N; JONES T C; PEINADO M|

NC- 089|

NP- 002|

PN- WO 200058810 A2 20001005 WO 2000US4972 A 20000225 200121 B|

PN- AU 200037087 A 20001016 AU 200037087 A 20000225 200121|

AN- <LOCAL> WO 2000US4972 A 20000225; AU 200037087 A 20000225|

AN- <PR> US 2000482843 A 20000113; US 99126614 P 19990327; US 99290363 A
19990412|

FD- WO 200058810 A2 G06F-001/00

<DS> (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE
DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK
LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL
TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
<DS> (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS
LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

FD- AU 200037087 A Based on patent WO 200058810|

LA- WO 200058810(E<PG> 76)|

DS- <NATIONAL> AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM
EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS
LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM
TR TT TZ UA UG UZ VN YU ZA ZW|

DS- <REGIONAL> AT; BE; CH; CY; DE; DK; EA; ES; FI; FR; GB; GH; GM; GR; IE;
IT; KE; LS; LU; MC; MW; NL; OA; PT; SD; SE; SL; SZ; TZ; UG; ZW|

AB- <PN> WO 200058810 A2|

AB- <NV> NOVELTY - The encrypted digital content to be rendered according
to a digital license apart from a package, can be decrypted based on a
decryption key obtained from the digital license . A package
identification is used for identification of one of the digital content
and the package. The location of a license provider that provides the
digital license , is included in a license acquisition
information.|

AB- <BASIC> DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for
the following:

(a) a computer-readable medium which stores a data structure
corresponding to digital content package;

(b) and a data structure.

USE - Applicable for access to digital content e.g. digital audio,
digital video, digital text, digital data, digital multimedia to be
distributed to a user.

ADVANTAGE - A digital rights management (DRM) system either directs
the user to a license server to obtain a license to render the
digital content or transparently obtains license from license
server without necessary action on the part of the user. Enables
flexible and definable control of rendering or playing of arbitrary
forms of digital content to content owner of digital content through
enforcement architecture.

DESCRIPTION OF DRAWING(S) - The figure shows the block diagram of
the authoring tool of the architecture of digital content package.

pp; 76 DwgNo 3/12|

DE- <TITLE TERMS> DIGITAL; CONTENT; PACKAGE; APPLY; ACCESS; DIGITAL;
CONTENT; LICENCE; ACQUIRE; INFORMATION; LOCATE; DIGITAL; LICENCE;
PACKAGE; ID; IDENTIFY; DIGITAL; CONTENT; PACKAGE|

DC- T01; W02|

IC- <MAIN> G06F-001/00|

Ginger R. DeMille

MC- <EPI> T01-D01; T01-J12C; T01-S03; W02-F05A; W02-F10|
FS- EPI||

8/4/2 (Item 1 from file: 347)

FN- DIALOG(R)File 347:JAPIO|
CZ- (c) 2005 JPO & JAPIO. All rts. reserv.|
TI- METHOD FOR OBTAINING DIGITAL LICENSE CORRESPONDING TO DIGITAL
CONTENT

PN- 2004-046856 -JP 2004046856 A-

PD- February 12, 2004 (20040212)

AU- BOURNE STEVEN; MALIK PRASHANT; KRISHNASWAMY VINAY; SHOBE JAMES B JR;
VENKATESH CHANDRAMOULI; NARIN ATTILLA

PA- MICROSOFT CORP

AN- 2003-183596 -JP 2003183596-

AN- 2003-183596 -JP 2003183596-

AD- June 26, 2003 (20030626)

PR- 02 185527 [US 2002185527], US (United States of America), June 28,
2002 (20020628)

G06F-012/14; H04L-009/08; H04L-009/32

AB- PROBLEM TO BE SOLVED: To encrypt contents in accordance with a
contents key (CK) (CK(content)), to protect the (CK) in accordance
with a public key (PU-DRM) of a license server, and to protect
right data related to the contents in accordance with
(PU-FRM). SOLUTION: Protected items are presented to the license
server as a right label in order to receive a signature by the
license server. The license server inspects whether the right
label is valid or not, digitally signs based on the protected right
data when the right label is valid, obtains, in result the signed
right label (SRL), and, then, returns the right label. The SRL is
connected to (CK(content)), both of which are distributed to a user.
The user submits the SRL to the license server to request a
license in order to render the contents. COPYRIGHT: (C)2004,JPO

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? t10/3,k/all

10/3,K/1 (Item 1 from file: 350)

DIALOG(R)File 350:Derwent WPIX
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017293623 **Image available**

WPI Acc No: 2005-617252/200563

Related WPI Acc No: 2000-611744; 2000-647267; 2000-647268; 2001-090815;
2001-191170; 2001-210824; 2001-210825; 2001-496746; 2001-522158;
2001-522159; 2001-596328; 2001-596397; 2002-279866; 2002-392575;
2003-522656

XRPX Acc No: N05-506645

Interdependent validation method for protecting digital data content in
digital rights management system, involves using private key that
validates digital signatures of digital content package and license

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: BLINN A N; JONES T C

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | week |
|----------------|------|----------|---------------|------|----------|----------|
| US 20050192907 | A1 | 20050901 | US 99126614 | P | 19990327 | 200563 B |
| | | | US 99290363 | A | 19990412 | |
| | | | US 2000482928 | A | 20000113 | |
| | | | US 2005117590 | A | 20050428 | |

Priority Applications (No Type Date): US 99126614 P 19990327; US 99290363 A
19990412; US 2000482928 A 20000113; US 2005117590 A 20050428

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
US 20050192907 A1 34 G06F-017/60 Provisional application US 99126614

Cont of application US 99290363
Div ex application US 2000482928

Abstract (Basic):

A private key is derived from the previous private key in order
to validate another digital signature obtained0 from the license .
package having a portion of digital content in encrypted form
with corresponding digital license for rendering the digital content
...

10/3,K/2 (Item 2 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

016906864 **Image available**

WPI Acc No: 2005-231152/200524

Related WPI Acc No: 2005-150687

XRPX Acc No: N05-190297

Electronic mail reception method in e.g. personal computer, involves
obtaining license for copyright protected content of electronic
mail, such that license is available to recipient even when recipient is
not connected to server

Patent Assignee: ANTONOFF L (ANTO-I); BROWN K (BROW-I); CAHILL J (CAHI-I);
DEMELLO M A (DEME-I); GRAHAM C (GRAH-I); GRAY R E (GRAY-I)

Inventor: ANTONOFF L; BROWN K; CAHILL J; DEMELLO M A; GRAHAM C; GRAY R E

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | week |
|----------------|------|----------|---------------|------|----------|----------|
| US 20050038750 | A1 | 20050217 | US 2003607896 | A | 20030627 | 200524 B |

Priority Applications (No Type Date): US 2003607896 A 20030627

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
US 20050038750 A1 37 G06F-015/16

Electronic mail reception method in e.g. personal computer, involves
obtaining license for copyright protected content of electronic
mail, such that license is available to recipient even when recipient is
not connected to...

Abstract (Basic):

... Ensures controlled rendering of arbitrary forms of digital content, to the user...

...The figure shows a flow diagram explaining the RM protection mail rendering process...

10/3,K/3 (Item 3 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

016477691 **Image available**
WPI Acc No: 2004-635634/200461

XRPX Acc No: N04-502358

Application service provider service execution method involves executing specific parameter for image processing by OCX component and uploading multi-resolution image obtained by image processing to server using OCX component

Patent Assignee: VR PHOTO CO LTD (VRPH-N); VR PHOTO JH (VRPH-N); KWAK J (KWAK-I)

Inventor: KWAK J S; KWAK J

Number of Countries: 108 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | week |
|---------------|------|----------|--------------|------|----------|----------|
| WO 200475072 | A1 | 20040902 | WO 2004KR333 | A | 20040219 | 200461 B |
| JP 2004252992 | A | 20040909 | JP 200466333 | A | 20040209 | 200461 |
| KR 436667 | B | 20040622 | KR 200310849 | A | 20030220 | 200470 |

Priority Applications (No Type Date): KR 200310849 A 20030220

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200475072 A1 E 70 G06F-017/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BW BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EC EE EG ES FI GB GD GE GH GM HR HU ID IL IN IS KE KG KP KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NA NI NO NZ OM PG PH PL PT RO RU SC SD SE SG SK SL SY TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Designated States (Regional): AT BE BG BW CH CY CZ DE DK EA EE ES FI FR GB GH GM GR HU IE IT KE LS LU MC MW MZ NL OA PT RO SD SE SI SK SL SZ TR TZ UG ZM ZW

JP 2004252992 A 30 G06F-013/00
KR 436667 B G06F-017/00

Application service provider service execution method involves executing specific parameter for image processing by OCX component and uploading multi-resolution image obtained by image processing to server using OCX component

Abstract (Basic):

... Relevant parameter for image processing are executed in an object linking-embedding control extension (OCX) component (28) included in the image production program. The divided multi-resolution image obtained by image processing and image data replacement data are saved by executing the OCX component. The processed image is uploaded to the designated server by using OCX component.

... Enables ordinary unskilled user to produce multi-resolution image. Blocks illegal usage of image manufacture solution and clears settlement of account between ASP service...

10/3,K/4 (Item 4 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

016349928 **Image available**
WPI Acc No: 2004-507831/200449

XRPX Acc No: N04-401510

Automated identification recording system for issuing gate pass in e.g. club, extracts personal textual and image information from temporary image digital image obtained by scanning driving license and prints

Ginger R. DeMille

ticket, accordingly

Patent Assignee: GRIFFITHS R (GRIF-I); STANTON M (STAN-I)

Inventor: GRIFFITHS R A; STANTON M R

Number of Countries: 001 Number of Patents: 001

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | week |
|---------------|------|----------|---------------|------|----------|----------|
| AU 2002301647 | B1 | 20030724 | AU 2002301647 | A | 20021025 | 200449 B |

Priority Applications (No Type Date): AU 2002301647 A 20021025

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|---------------|------|-----|----|-------------|--------------|
| AU 2002301647 | B1 | 23 | | G06F-007/12 | |

... gate pass in e.g. club, extracts personal textual and image information from temporary image digital image obtained by scanning driving license and prints ticket, accordingly

Abstract (Basic):

... An optical scanner (21) scans personal identification card (22) e.g. driving license to generate a temporary digital image (23). A processing system (10) extracts personal textual data e.g. license holder's name...

10/3,K/5 (Item 5 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

015962773 **Image available**

WPI Acc No: 2004-120614/200412

XRPX Acc No: N04-096497

Digital content rendering method e.g. for digital audio, involves applying encryption/decryption key to digital content of storage medium, to expose corresponding content

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: GANESAN K; HELIN J F; STROM C P

Number of Countries: 034 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | week |
|----------------|------|----------|---------------|------|----------|----------|
| US 20040003267 | A1 | 20040101 | US 2002183933 | A | 20020626 | 200412 B |
| EP 1376303 | A2 | 20040102 | EP 200313279 | A | 20030612 | 200412 |
| NO 200302748 | A | 20031229 | NO 20032748 | A | 20030617 | 200412 |
| JP 2004048749 | A | 20040212 | JP 2003183594 | A | 20030626 | 200413 |

Priority Applications (No Type Date): US 2002183933 A 20020626

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|----------------|------|-----|----|-------------|--------------|
| US 20040003267 | A1 | 26 | | H04L-009/00 | |

EP 1376303 A2 E G06F-001/00

Designated States (Regional): AL AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HU IE IT LI LT LU LV MC MK NL PT RO SE SI SK TR

NO 200302748 A H04L-009/32

JP 2004048749 A 34 H04L-009/14

Digital content rendering method e.g. for digital audio, involves applying encryption/decryption key to digital content of...

Abstract (Basic):

... For rendering digital content such as digital audio, digital video, digital text, digital data and digital multimedia...

...Efficiently allows the access of encrypted digital content in accordance with license rights acquired by user...

...Title Terms: RENDER ;

10/3,K/6 (Item 6 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

014459163 **Image available**

WPI Acc No: 2002-279866/200232

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Related WPI Acc No: 2000-611744; 2000-647267; 2000-647268; 2001-090815;
2001-191170; 2001-210824; 2001-210825; 2001-496746; 2001-522158;
2001-522159; 2001-596328; 2001-596397; 2002-350656; 2002-392575;
2003-522656; 2005-617252

XRPX Acc No: N02-218525

Digital content rendering method for digital right management and enforcement, involves rendering encrypted content on portable device, by decrypting encrypted content key with private key

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: PEINADO M

Number of Countries: 028 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|----------------|------|----------|---------------|------|----------|----------|
| US 20020013772 | A1 | 20020131 | US 99126614 | P | 19990327 | 200232 B |
| | | | US 2001892371 | A | 20010627 | |
| EP 1271279 | A2 | 20030102 | EP 200211478 | A | 20020524 | 200310 |
| JP 2003101526 | A | 20030404 | JP 2002186967 | A | 20020626 | 200332 |

Priority Applications (No Type Date): US 99126614 P 19990327; US 2001892371
A 20010627

Patent Details:

| Patent No | Kind | Lan | Pg | Main IPC | Filing Notes |
|----------------|------|-----|-------------|-------------------------------------|--------------|
| US 20020013772 | A1 | 44 | H04L-009/00 | Provisional application US 99126614 | |

EP 1271279 A2 E G06F-001/00

Designated States (Regional): AL AT BE CH CY DE DK ES FI FR GB GR IE IT
LI LT LU LV MC MK NL PT RO SE SI TR

JP 2003101526 A 46 H04L-009/08

Digital content rendering method for digital right management and enforcement, involves rendering encrypted content on portable device, by decrypting encrypted content key with private key

Abstract (Basic):

... The content key (KD) obtained from the digital license , is encrypted according to public key (PU1) of the portable device. The sub-license is...

...device decrypts encrypted content key with private key (PR1) and produces a content key, and renders the encrypted content on portable device using the produced content key.

... For rendering digital contents such as digital audio, video, text, data and multimedia, for digital rights management...

...Allows the controlled rendering or playing of arbitrary forms of digital content where such control is flexible and definable by the user of the digital content. Renders digital content only as specified by the content user, even though the digital content is to be rendered on a portable device which is not under the control of content user...

...Title Terms: RENDER ;

10/3,K/7 (Item 7 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

014112116 **Image available**

WPI Acc No: 2001-596328/200167

Related WPI Acc No: 2000-611744; 2000-647267; 2000-647268; 2001-090815;
2001-191170; 2001-210824; 2001-210825; 2001-496746; 2001-522158;
2001-522159; 2001-596397; 2002-279866; 2002-350656; 2002-392575;
2003-522656; 2005-617252

XRPX Acc No: N01-444564

Encrypting a digital object based on key ID selected for the digital object, using selected key ID as input to a selected function output of which is used as key for the digital object

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: PEINADO M; VENKATESAN R

Number of Countries: 092 Number of Patents: 005

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|-----------|------|------|-------------|------|------|------|
|-----------|------|------|-------------|------|------|------|

Ginger R. DeMille

| | | | | | | | |
|----------------|----|----------|----------------|---|----------|--------|---|
| WO 200152019 | A1 | 20010719 | WO 2000US23105 | A | 20000822 | 200167 | B |
| AU 200069278 | A | 20010724 | AU 200069278 | A | 20000822 | 200168 | |
| US 6816596 | B1 | 20041109 | US 2000176425 | P | 20000114 | 200474 | |
| | | | US 2000526292 | A | 20000315 | | |
| US 20050066187 | A1 | 20050324 | US 99126614 | P | 19990327 | 200526 | |
| | | | US 2000176425 | P | 20000114 | | |
| | | | US 2000526292 | A | 20000315 | | |
| | | | US 2004981846 | A | 20041105 | | |
| US 20050086478 | A1 | 20050421 | US 99126614 | P | 19990327 | 200528 | |
| | | | US 2000176425 | P | 20000114 | | |
| | | | US 2000526292 | A | 20000315 | | |
| | | | US 2004982105 | A | 20041105 | | |

Priority Applications (No Type Date): US 2000526292 A 20000315; US 2000176425 P 20000114; US 99126614 P 19990327; US 2004981846 A 20041105; US 2004982105 A 20041105

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200152019 A1 E 130 G06F-001/00

Designated States (National): AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW

AU 200069278 A G06F-001/00 Based on patent WO 200152019

US 6816596 B1 H04L-009/00 Provisional application US 2000176425

US 20050066187 A1 H04L-009/00 Provisional application US 99126614

Provisional application US 2000176425
Cont of application US 2000526292

Cont of patent US 6816596

US 20050086478 A1 H04L-009/00 Provisional application US 99126614

Provisional application US 2000176425
Cont of application US 2000526292
Cont of patent US 6816596

Abstract (Basic):

... enforcement architecture allows access to encrypted digital content only in accordance with parameters specified by license rights acquired by user of the digital content, such as digital audio, digital video, digital text, digital data, and digital multimedia for...

...specify license rules that must be satisfied before such digital content is allowed to be rendered e.g. on user's computing device...

10/3,K/8 (Item 8 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

013726595 **Image available**

WPI Acc No: 2001-210825/200121

Related WPI Acc No: 2000-611744; 2000-647267; 2000-647268; 2001-090815;
2001-191170; 2001-210824; 2001-496746; 2001-522158; 2001-522159;
2001-596328; 2001-596397; 2002-279866; 2002-350656; 2002-392575;
2003-522656; 2005-617252

XRPX Acc No: N01-150658

Digital rights management system for enforcing rights in digital content, has license evaluator that determines if corresponding stored license enables requesting user to render requested digital content

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: ABBURI R; BELL J R C; PEINADO M

Number of Countries: 090 Number of Patents: 004

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|--------------|------|----------|---------------|------|----------|----------|
| WO 200058811 | A2 | 20001005 | WO 2000US5091 | A | 20000225 | 200121 B |
| AU 200037101 | A | 20001016 | AU 200037101 | A | 20000225 | 200121 |
| EP 1259863 | A2 | 20021127 | EP 2000915912 | A | 20000225 | 200302 |
| | | | WO 2000US5091 | A | 20000225 | |

Ginger R. DeMille

JP 2003522989 W 20030729 JP 2000608242 A 20000225 200358
WO 2000US5091 A 20000225

Priority Applications (No Type Date): US 2000482932 A 20000113; US 99126614
P 19990327; US 99290363 A 19990412

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
WO 200058811 A2 E 80 G06F-001/00

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN
CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE
SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200037101 A Based on patent WO 200058811

EP 1259863 A2 E G06F-001/00 Based on patent WO 200058811

Designated States (Regional): AT BE CH CY DE DK ES FI FR GB GR IE IT LI
LU MC NL PT SE

JP 2003522989 W 92 G06F-012/14 Based on patent WO 200058811

... digital content, has license evaluator that determines if
corresponding stored license enables requesting user to render
requested digital content

Abstract (Basic):

... 38) determines if a corresponding license in the license store
enables the requesting user to render requested digital content in
the manner sought based on reviewed license rules. A state store...

... Allows access to encrypted digital content in accordance to
specified parameters by license rights acquired by a user of the
digital content. Allows owner of digital content to specify license
rules that must be satisfied before digital content is allowed to be
rendered on user's computer. Can be used in other computer system
configurations e.g. handheld...

...Title Terms: RENDER ;

10/3,K/9 (Item 9 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

013606607 **Image available**

WPI Acc No: 2001-090815/200110

Related WPI Acc No: 2000-611744; 2000-647267; 2000-647268; 2001-191170;
2001-210824; 2001-210825; 2001-496746; 2001-522158; 2001-522159;
2001-596328; 2001-596397; 2002-279866; 2002-350656; 2002-392575;
2003-522656; 2005-617252

XRPX Acc No: N01-068829

Digital license obtaining method involves checking validity of
license request, negotiating terms and conditions between license
requestor and provider, and generating and issuing request

Patent Assignee: MICROSOFT CORP (MICKT)

Inventor: ABBURI R; BELL J R C; BLINN A N; ENGLAND P; GANESAN K; JONES T C;
PEINADO M

Number of Countries: 089 Number of Patents: 002

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | week |
|--------------|------|----------|---------------|------|----------|----------|
| WO 200058859 | A2 | 20001005 | WO 2000US4949 | A | 20000225 | 200110 B |
| AU 200030078 | A | 20001016 | AU 200030078 | A | 20000225 | 200110 |

Priority Applications (No Type Date): US 2000482725 A 20000113; US 99126614
P 19990327; US 99290363 A 19990412

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes
WO 200058859 A2 E 111 G06F-017/00

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN
CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP
KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE
SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR
IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200030078 A Based on patent WO 200058859

Digital license obtaining method involves checking validity of license request, negotiating terms and conditions between license requestor and provider, and generating and issuing request

Abstract (Basic):

... Allows controlled rendering or playing of arbitrary forms of digital content, where control is flexible and definable by content owner of digital content. Provides controlled rendering environment on computing device e.g. personal computer, where rendering environment includes at least a portion of enforcement architecture, thus allowing digital content to be rendered as specified by content owner even though digital content is to be rendered on computing device that is not under control of content owner. Provides trusted software component...

10/3,K/10 (Item 10 from file: 350)

DIALOG(R)File 350:Derwent WPIX
(c) 2005 Thomson Derwent. All rts. reserv.

013475325 **Image available**

WPI Acc No: 2000-647268/200062

Related WPI Acc No: 2000-611744; 2000-647267; 2001-090815; 2001-191170;
2001-210824; 2001-210825; 2001-496746; 2001-522158; 2001-522159;
2001-596328; 2001-596397; 2002-279866; 2002-350656; 2002-392575;
2003-522656; 2005-617252

XRPX Acc No: N00-479689

Digital content in encrypted rights protected form rendering , involves locating digital content of selected license and obtaining decryption key for decrypting digital contents using digital rights management system

Patent Assignee: MICROSOFT CORP (MICT)

Inventor: BELL J R C; MANFERDELLI J L; PEINADO M

Number of Countries: 090 Number of Patents: 003

Patent Family:

| Patent No | Kind | Date | Applicat No | Kind | Date | Week |
|--------------|------|----------|---------------|------|----------|----------|
| WO 200059151 | A2 | 20001005 | WO 2000us4948 | A | 20000225 | 200062 B |
| AU 200033810 | A | 20001016 | AU 200033810 | A | 20000225 | 200106 |
| US 6775655 | B1 | 20040810 | US 99126614 | P | 19990327 | 200453 |
| | | | US 99290363 | A | 19990412 | |
| | | | US 99449106 | A | 19991124 | |

Priority Applications (No Type Date): US 99449106 A 19991124; US 99126614 P 19990327; US 99290363 A 19990412

Patent Details:

Patent No Kind Lan Pg Main IPC Filing Notes

WO 200059151 A2 E 76 H04L-009/00

Designated States (National): AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

Designated States (Regional): AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ TZ UG ZW

AU 200033810 A H04L-009/00 Based on patent WO 200059151

US 6775655 B1 G06F-017/60 Provisional application US 99126614
Cont of application US 99290363

Digital content in encrypted rights protected form rendering , involves locating digital content of selected license and obtaining decryption key for decrypting digital contents using digital rights management system

Abstract (Basic):

... A rendering application determines whether the digital content is in an encrypted right protected form and invokes...

...a digital content piece and has a digital content decryption key (KD). DRM system locates digital content of selected license and obtains the relevant KD for decrypting the digital contents.

... used in rendering digital contents like digital audio, digital video, digital text , digital multimedia, in encrypted right protected

...

Ginger R. DeMille

...Title Terms: RENDER ;

10/3,K/11 (Item 1 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2005 JPO & JAPIO. All rts. reserv.

08140232 **Image available**
METHOD AND EQUIPMENT OF ASP SERVICE FOR MULTI-RESOLUTION IMAGE ON
ENVIRONMENT OF MULTI-WEB SERVER

PUB. NO.: 2004-252992 [JP 2004252992 A]
PUBLISHED: September 09, 2004 (20040909)
INVENTOR(s): KAKU TEIKOKU
APPLICANT(s): VR PHOTO CO LTD
APPL. NO.: 2004-066333 [JP 200466333]
FILED: February 09, 2004 (20040209)
PRIORITY: 03 200310849 [KR 200310849], KR (Korea) Republic of, February
20, 2003 (20030220)

ABSTRACT

... To provide an accurate preference research method which consistently performs processing of all processes of producing multi-resolution images so as to enable anybody, even a general user who doesn't have expert knowledge...

... and allows the images to be browsed by Internet users and prevents illegal use of image production solutions and provides a transparent price paying method between an ASP developer and an ASP...

...company and takes only the specific area of commodities as the object.

SOLUTION: Multi-resolution images are produced while mutually transmitting parameters between application parts (15, 18, and 27) and an OCX component part (28) and are uploaded to the server and are carried on the web...

...images. This processing is executed by authentication for the purpose of preventing illegal use of OCX components. and use details are recorded to make price payment transparent.

COPYRIGHT: (C)2004,JPO...

10/3,K/12 (Item 2 from file: 347)
DIALOG(R)File 347:JAPIO
(c) 2005 JPO & JAPIO. All rts. reserv.

07607680 **Image available**
METHOD FOR BINDING DIGITAL LICENSE TO PORTABLE DEVICE AND FOR CHECKING OUT
OR CHECKING IN DIGITAL LICENSE FROM OR TO PORTABLE DEVICE IN DIGITIZED
RIGHT MANAGEMENT (DRM) SYSTEM

PUB. NO.: 2003-101526 [JP 2003101526 A]
PUBLISHED: April 04, 2003 (20030404)
INVENTOR(s): PEINADO MARCUS
APPLICANT(s): MICROSOFT CORP
APPL. NO.: 2002-186967 [JP 2002186967]
FILED: June 26, 2002 (20020626)
PRIORITY: 01 892371 [US 2001892371], US (United States of America),
June 27, 2001 (20010627)

ABSTRACT

... for enhancing digital license right in order to prevent illegal conducts.

SOLUTION: In order to render a digital contents encrypted according to a contents key (KD) on a first device having a public key (PU1) and a corresponding private key (PR1), a digital license corresponding to the contents is acquired . The digital license houses the contents key (KD) in an encrypted form. The encrypted contents key (KD) from...

10/3,K/13 (Item 3 from file: 347)

DIALOG(R)File 347:JAPIO
(c) 2005 JPO & JAPIO. All rts. reserv.

07542317 **Image available**

DIGITAL CONTENT PROVIDING SYSTEM AND METHOD, SERVER DEVICE AND DIGITAL CONTENT PROVIDING PROGRAM

PUB. NO.: 2003-036157 [JP 2003036157 A]
PUBLISHED: February 07, 2003 (20030207)
INVENTOR(s): HIRABAYASHI SHINJI
APPLICANT(s): SEIKO EPSON CORP
APPL. NO.: 2002-129648 [JP 2002129648]
FILED: Division of 2001-094735 [JP 200194735]
March 29, 2001 (20010329)

ABSTRACT

... PC 2 and transmits this layout information file to the user PC 2. A printing OCX 54 in the user PC 2 creates the print image based on main picture data and layout information in the main picture container 42 and...

10/3,K/14 (Item 4 from file: 347)

DIALOG(R)File 347:JAPIO
(c) 2005 JPO & JAPIO. All rts. reserv.

07431636 **Image available**

DIGITAL CONTENTS PROVIDING SYSTEM, DIGITAL CONTENTS PROVIDING METHOD, SERVER UNIT AND DIGITAL CONTENTS PROVIDING PROGRAM

PUB. NO.: 2002-300146 [JP 2002300146 A]
PUBLISHED: October 11, 2002 (20021011)
INVENTOR(s): HIRABAYASHI SHINJI
APPLICANT(s): SEIKO EPSON CORP
APPL. NO.: 2001-094735 [JP 200194735]
FILED: March 29, 2001 (20010329)

ABSTRACT

... PC 2, and transmits the layout information file to the user PC 2. A print OCX 54 in the user PC 2 generates a print image on the basis of the main image data in the main image container 42 and...

10/3,K/15 (Item 1 from file: 2)

DIALOG(R)File 2:INSPEC
(c) 2005 Institution of Electrical Engineers. All rts. reserv.

07780576 INSPEC Abstract Number: B2001-01-6210L-070, C2001-01-3360J-017

Title: Network communication in distributed marine simulation system

Author(s): Yin Yong; Jin Yi-Cheng; Li Zhi-Hua

Author Affiliation: Nautical Sci. & Technol. Inst., Dalian Maritime Univ., China

Journal: Journal of System Simulation vol.12, no.6 p.621-4

Publisher: Editorial Committee of J. Systems Simulation,

Publication Date: Nov. 2000 Country of Publication: China

ISSN: 1004-731X

SICI: 1004-731X(200011)12:6L.621:NCDM;1-U

Material Identity Number: H448-2000-007

Language: Chinese

Subfile: B C

Copyright 2000, IEE

...Abstract: how to implement the high speed communication of the system adopting UDP protocol and Winsock OCX control. The paper also introduces the synchronous technology and DR algorithm used in the 3D scene rendering computers in details.

...Descriptors: rendering (computer graphics)

...Identifiers: Winsock OCX control...

...3D scene rendering

Ginger R. DeMille

10/3,K/16 (Item 1 from file: 99)
DIALOG(R)File 99:Wilson Appl. Sci & Tech Abs
(c) 2005 The HW Wilson Co. All rts. reserv.

2063719 H.W. WILSON RECORD NUMBER: BAST00016613
The two competitive photodissociation channels in cyano carbonyls (NCC(O)X,
X = CH₃, CH(CH₃)₂, C(CH₃)₃, OCH₃) at 193 nm. A study by photofragment
translational energy spectroscopy
Furlan, Alan; Scheld, Heiner A; Huber, J. Robert
The Journal of Physical Chemistry A v. 104 no9 (Mar. 9 2000) p. 1920-9
DOCUMENT TYPE: Feature Article ISSN: 1089-5639

...ABSTRACT: kinetic energy distributions were measured and the two radical decay channels, NCC(O)X --> CN + OCX and NCC(O)X --> OCCN + X, were identified. Dissociation leading to CN + OCX is the main decay path ([similar] 85%) for acetyl cyanide (X = methyl), but is the...

...X = isopropyl (30%), X = tert-butyl (17%), and X = methoxy (<5%). The primary fragments CN + OCX were found to be stable with respect to secondary dissociation in all cases, except for...

...the four compounds proved methyl cyanoformate to be the most favorable species for an efficient photolytical production of stable OCCN radicals, whereas acetyl cyanide is the most efficient source of CN radicals...

10/3,K/17 (Item 1 from file: 256)
DIALOG(R)File 256:TecInfoSource
(c) 2005 Info.Sources Inc. All rts. reserv.

02645001 DOCUMENT TYPE: Company

HexaTech (645001)
725 Mariposa Ave #107
Mountain View, CA 94041 United States
TELEPHONE: (650) 254-0610
FAX: (650) 965-1645
HOMEPAGE: <http://www.hexatech.com>
EMAIL: info@hexatech.com

RECORD TYPE: Directory

CONTACT: Sales Department

STATUS: Active

SALES: NA

DATE FOUNDED: 1995
PERSONNEL: Lu, John, General Manager
REVISION DATE: 20030630
...was founded in 1995 with the mission to build and provide innovative and quality ActiveX/ OCX controls at a very affordable price. The company specializes in developing component software and Windows graphics products .

10/3,K/18 (Item 2 from file: 256)
DIALOG(R)File 256:TecInfoSource
(c) 2005 Info.Sources Inc. All rts. reserv.

01645443 DOCUMENT TYPE: Product

PRODUCT NAME: Catalyst SocketTools 3.6 (645443)

Catalyst Development Corp (625833)
56925 Yucca Trail #254
Yucca Valley, CA 92284 United States
TELEPHONE: (760) 228-9653

Ginger R. DeMille

RECORD TYPE: Directory

CONTACT: Sales Department

REVISION DATE: 20020930

...existing applications. It provides the tools in the form of VBX and 16/32 bit OCX custom controls, all inclusive in the one package. These components can be used by Visual...

...Internet or Intranet e-mail directly into existing applications. The webBrowser control, along with an image rendering component, allows developers to integrate the web into any existing or new application with HTML2.0 and some...

10/3,K/19 (Item 1 from file: 94)

DIALOG(R)File 94:JICST-EPlus

(c)2005 Japan Science and Tech Corp(JST). All rts. reserv.

04879049 JICST ACCESSION NUMBER: 01A0116789 FILE SEGMENT: JICST-E
Development of an Image Analyzing System of the Headache Diary for Quantitative Analysis of the Headache.

TAKEUCHI AKIHIRO (1); IKEDA NORIAKI (1); DOBASHI KAORI (2); SHIMASAWA CHIKAE (2); IGARASHI HISAKA (2); SAKAI FUMIHIKO (2); SHIRATAKA MASUO (3)

(1) Kitasato Univ. School of Allied Health Sci.; (2) Kitasato Univ., Hosp.
; (3) Kitasato Univ., Sch. of Med.

Iryo Johogaku(Japan Journal of Medical Informatics), 2000, VOL.20,NO.4,
PAGE.319-326, FIG.6, TBL.1, REF.7

JOURNAL NUMBER: Y0510AAE ISSN NO: 0289-8055

UNIVERSAL DECIMAL CLASSIFICATION: 616.8-07

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Original paper

MEDIA TYPE: Printed Publication

Development of an Image Analyzing System of the Headache Diary for Quantitative Analysis of the Headache.

...ABSTRACT: and is consisted of an Active X control and an HTML file. The control (TKS.ocx (100 kB), developed by using Microsoft VC++6.0) takes a job of an image...

10/3,K/20 (Item 2 from file: 94)

DIALOG(R)File 94:JICST-EPlus

(c)2005 Japan Science and Tech Corp(JST). All rts. reserv.

04067445 JICST ACCESSION NUMBER: 99A0295301 FILE SEGMENT: JICST-E
Development of image applications by OCX . More free imageprocessing.

TAMAI TAKAO (1)

(1) Aivsukeku

Gazo Rabo, 1999, VOL.10,NO.3, PAGE.50-58, FIG.12, TBL.3

JOURNAL NUMBER: L2340AAI ISSN NO: 0915-6755

UNIVERSAL DECIMAL CLASSIFICATION: 681.3:621.397.3

LANGUAGE: Japanese COUNTRY OF PUBLICATION: Japan

DOCUMENT TYPE: Journal

ARTICLE TYPE: Commentary

MEDIA TYPE: Printed Publication

Development of image applications by OCX . More free imageprocessing.

...ABSTRACT: Excel. The imageprocessing software satisfying these conditions "IO" is presentedwhich is a development tool on OCX of Windows for imageprocessing applications. Some real examples for image analysisare presented.

?

? show files;ds
 File 15:ABI/Inform(R) 1971-2005/Nov 04
 (c) 2005 ProQuest Info&Learning
 File 16:Gale Group PROMT(R) 1990-2005/Nov 07
 (c) 2005 The Gale Group
 File 148:Gale Group Trade & Industry DB 1976-2005/Nov 07
 (c) 2005 The Gale Group
 File 160:Gale Group PROMT(R) 1972-1989
 (c) 1999 The Gale Group
 File 275:Gale Group Computer DB(TM) 1983-2005/Nov 04
 (c) 2005 The Gale Group
 File 621:Gale Group New Prod.Annou.(R) 1985-2005/Nov 07
 (c) 2005 The Gale Group
 File 9:Business & Industry(R) Jul/1994-2005/Nov 04
 (c) 2005 The Gale Group
 File 20:Dialog Global Reporter 1997-2005/Nov 05
 (c) 2005 Dialog
 File 476:Financial Times Fulltext 1982-2005/Nov 06
 (c) 2005 Financial Times Ltd
 File 610:Business Wire 1999-2005/Nov 05
 (c) 2005 Business Wire.
 File 613:PR Newswire 1999-2005/Nov 04
 (c) 2005 PR Newswire Association Inc
 File 24:CSA Life Sciences Abstracts 1966-2005/Sep
 (c) 2005 CSA.
 File 634:San Jose Mercury Jun 1985-2005/Nov 04
 (c) 2005 San Jose Mercury News
 File 636:Gale Group Newsletter DB(TM) 1987-2005/Nov 07
 (c) 2005 The Gale Group
 File 810:Business Wire 1986-1999/Feb 28
 (c) 1999 Business Wire
 File 813:PR Newswire 1987-1999/Apr 30
 (c) 1999 PR Newswire Association Inc
 File 13:BAMP 2005/Oct w5
 (c) 2005 The Gale Group
 File 75:TGG Management Contents(R) 86-2005/Oct w5
 (c) 2005 The Gale Group
 File 95:TEME-Technology & Management 1989-2005/Sep w4
 (c) 2005 FIZ TECHNIK
 File 348:EUROPEAN PATENTS 1978-2005/Oct w04
 (c) 2005 European Patent Office
 File 349:PCT FULLTEXT 1979-2005/UB=20051103,UT=20051027
 (c) 2005 WIPO/Univentio

| Set | Items | Description |
|-----|---------|--|
| S1 | 90594 | DRM OR DIGITAL()RIGHTS OR RIGHTS()MANAGEMENT OR ACCESS?(2N-))RIGHTS |
| S2 | 2006125 | RENDER? OR (GENERAT? OR CREAT? OR CONSTRUCT? OR DEVELOP? OR BUILD? OR PRODUC? OR PROPAGAT? OR COMPOS?) (3N) (IMAGE? ? OR G- RAPHIC? ? OR PICTURE? ? OR PHOTO?) |
| S3 | 42257 | LICENSE? ?(3N) SERVER? ? OR FLEXIM OR LICENSE? ?(2W) (MANAGE- MENT OR MANAGER OR STORAGE) |
| S4 | 9260 | (ACQUIR? OR DOWNLOAD? OR DOWN()LOAD? OR ACCESS? OR OBTAIN? OR RETREIV? OR ACQUIS?)(6N) (DIGITAL? OR ELECTRONIC? OR DIGI)(- N) LICENSE? ? OR OCX |
| S5 | 1733316 | SHUTDOWN OR SHUT? ?()DOWN OR SHUTTING()DOWN OR SLEEP? OR Q- UIET |
| S6 | 66 | S2 AND S3 AND S4 |
| S7 | 9 | S5 AND S6 |
| S8 | 57 | S6 NOT S7 |
| S9 | 820 | S2 AND S4 |
| S10 | 754 | S9 NOT S6 |
| S11 | 20 | S2(30N)S3(30N)S4 |
| S12 | 0 | S5(30N)S11 |
| S13 | 119 | S2(30N)S4 |
| S14 | 166 | S6:S8 OR S11:S13 |
| S15 | 107 | S14 NOT PY>2000 |
| S16 | 54 | RD (unique items) |

? t16/3,k/all

16/3,K/1 (Item 1 from file: 15)
 DIALOG(R)File 15:ABI/Inform(R)

Ginger R. DeMille

Windows-DOS Developer's Journal, v6., n9, p79(1)

Sep, 1995

DOCUMENT TYPE: Brief Article Product Announcement

ISSN: 1059-2407

LANGUAGE: English RECORD TYPE: Fulltext

WORD COUNT: 86 LINE COUNT: 00010

TEXT:

...for windows components. Products are organized by components type, file format, and vendor, and cover OCX, VBX DLI, and Delphi custom controls. After you locate a control of interest, you can access text descriptions, product images, and downloadable demos.

16/3,K/30 (Item 7 from file: 275)
DIALOG(R)File 275:Gale Group Computer DB(TM)
(c) 2005 The Gale Group. All rts. reserv.

01804827 SUPPLIER NUMBER: 17155740 (USE FORMAT 7 OR 9 FOR FULL TEXT)
Tools and utilities.(1995 Database Buyer's Guide and client/server
sourcebook)(Buyers Guide)
DBMS, v8, n6, p72(29)
May 15, 1995
DOCUMENT TYPE: Buyers Guide ISSN: 1041-5173 LANGUAGE: English
RECORD TYPE: Fulltext; Abstract
WORD COUNT: 45154 LINE COUNT: 03869

... free disk space. Compatible with UniData, universe, Pick, Prime Information, and other applications. Single-user license : \$195; server licenses are also available, 10 users: \$1700, 25 users: \$4000, 50 users: \$7500, 100 users: \$14...Jacobson. Allows real-time problems to be partitioned into smaller pieces and then modeled by creating a graphic presentation of tasks, flows, processes, states, events, and actions. The tools communicate with one another...on Sun SPARC, Sun OS, IBM RS/6000, and HP 9000 platforms. \$4595 per SQL Server license ; multiple- server license discounts are available. Reader service #698.

DataTools-BackTrack for Oracle
DataTools Inc., Menlo Park, CA...of resources. Analysis includes region occupancy, alerts when a dependent region is swapped out, IMS shutdown in progress, stopped OLDS, online change in progress, and so on. Resource and contention analysis...such as scanners and digital cameras directly into FoxPro for Windows. Additional features include Graphic Image Command Set for developers customization and complete user interface. \$189. Reader service #775.

Espia Graphs & Tools for FoxPro for...

...16 million colors, and recording and playing sound in the .wav format (Windows version only). Creates pictures with a video digitizer or color scanner and scans documents with any black-and-white...from development standards. Each object requires PowerBuilder. \$129 per developer; \$950 for an unlimited single- server license . Reader service #825.

PowerLock 4.0
ServerLogic Corp., Bellevue, WA
206-803-0378
A security...

...on these roles. Runs on any PowerBuilder-compatible platform (Windows, Macintosh, and Unix). Single-development server license ; \$1995; single production server license : \$395; quantity discounts apply. Reader service #826.

PowerObjects
ServerLogic Corp., Bellevue, WA
206-803-0378...and Application utilities. Runs on any

PowerBuilder-compatible platform (Windows, Macintosh, and Unix). Unlimited development server license : \$895 per module or \$1795 for all three modules; developer license: \$395 per module or...databases, send Transact-SQL statements, and process their results. \$249. Reader service #837.

SQL-Sombrero/ OCX for CT-Library
Sylvain Faust Inc., Hull, Quebec, CANADA
819-778-5045; 800-567-9127...

Ginger R. DeMille

...the OLE automation interface. 16- and 32-bit versions. \$389. Reader service #839.

SQL-Sombrero/ OCX for DB Library
Sylvain Faust Inc., Hull, Quebec, CANADA
819-778-5045; 800-567-9127...

...interface classes. Can be combined with Light Lib Images or Light Lib Business to let developers add images and graphs to their applications. Includes source code. \$329. Reader service #843.

Tom Rettig's...packages to produce documents. Gives users control over page layout with publishing features such as graphics inclusion table generation , boxes and lines, automatic table of contents generation, lists of figures and tables cross-referencing...use of fonts, graphics, and screen colors. Users can also stylize text, data, buttons, backgrounds, pictures , and graphics to create templates. Access to several databases, including AS/400 SQL, Gupta SQLBase Server, Oracle, Sybase SQL ...options. Users can copy the results of a query to another Windows application. An integrated graphics package allows the creation of charts from query results. As the user builds a query, the results can be ...applications using Report Engine DLL. Runtime included at no charge. Features enhanced VBX and new OCX . Supports many PC database formats, including Access, dBASE, Paradox, FoxPro, and Excel. The Professional Version...multiline captions; flexible text/image alignment; use of any icon, bitmap, metafile, or cursor to create the control; image scaling and automatic control sizing; programmable animation speed; fully runtime configurable; automatic 3D borders with...

16/3,K/31 (Item 1 from file: 20)
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 Dialog. All rts. reserv.

02982618
Fort Point Partners Delivers Strategic Consulting, Deployment Support For HP's OpenPix E-commerce Web Site
BUSINESS WIRE
October 01, 1998
JOURNAL CODE: WBWE LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 505

... product family. Under the program, Fort Point will deploy HP's OpenPix products as it develops and implements vivid, graphics-intensive e-commerce solutions for its clients. Regarded within HP's Internet Imaging Operation as...

... OpenPix products and services. The solution provided by Fort Point includes integration with secure software download , physical fulfillment functions and electronic software license management . Fort Point developed the system architecture, integrated existing systems with new capabilities, and managed the...

16/3,K/32 (Item 2 from file: 20)
DIALOG(R)File 20:Dialog Global Reporter
(c) 2005 Dialog. All rts. reserv.

01275178 (USE FORMAT 7 OR 9 FOR FULLTEXT)
PNI Appoints New Vice President of Sales and Marketing
PR NEWSWIRE
March 30, 1998 8:48
JOURNAL CODE: WPRW LANGUAGE: English RECORD TYPE: FULLTEXT
WORD COUNT: 552

(USE FORMAT 7 OR 9 FOR FULLTEXT)

... Publishers Depot(TM) web site (www.publishersdepot.com), an Internet store that allows professional publishers, graphic artists and web- developers to instantly search for, license and download stock photography and other digital content from more than 400,000 images. Caviston will be directly involved in growing the...

Ginger R. DeMille

16/3,K/33 (Item 1 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2005 The Gale Group. All rts. reserv.

03914172 Supplier Number: 50125792 (USE FORMAT 7 FOR FULLTEXT)
High-tech dental products proliferate in a changing market

The BBI Newsletter, v21, n5, pN/A
May 1, 1998

Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 2605

... capture card. Cygnus Imaging markets the Cygnus-Ray2 system developed by Japan's Panasonic.

DMD acquired an exclusive worldwide license to a digital X-ray imaging system being developed by Suni Imaging Microsystems (Mountain View, California). Suni, a private semiconductor company that specializes in system-on-a-chip CMOS and CMOS-CCD image sensor products, pioneered the development of the first film-sized image sensors produced for digital X-ray...

16/3,K/34 (Item 2 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2005 The Gale Group. All rts. reserv.

03767643 Supplier Number: 48155191 (USE FORMAT 7 FOR FULLTEXT)
SNOWBOUND OFFERS CMYK RASTER IMAGING SUPPORT FOR PRE-PRESS

Imaging Update, v8, n12, pN/A
Dec 1, 1997

Language: English Record Type: Fulltext
Document Type: Newsletter; Trade
Word Count: 341

... purposes. Common capabilities for image manipulation include view, zoom, rotate, and scroll through multi-page images.

The product is available NOW for Windows 95 and NT as a DLL or ActiveX/ OCX or as a Macintosh 68K or PPC LIB, Windows 3.x, and UNIX. The price...

16/3,K/35 (Item 3 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2005 The Gale Group. All rts. reserv.

03535265 Supplier Number: 47305165 (USE FORMAT 7 FOR FULLTEXT)
KODAK: "I spy with my PC eye" -- Kodak launches first digital video camera

M2 Presswire, pN/A
April 17, 1997

Language: English Record Type: Fulltext
Document Type: Newswire; Trade
Word Count: 1020

... users distort pictures in a number of fun ways. Distorted images can be saved for compositing in an image editing package, save the effect to apply to another image, or create a movie to use in multimedia presentations or play as a screen saver.

OCX 32-bit control and documentation This feature easily enables users to add the DVC 300...

16/3,K/36 (Item 4 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2005 The Gale Group. All rts. reserv.

03213459 Supplier Number: 46591587 (USE FORMAT 7 FOR FULLTEXT)
DATAVIEWS CORPORATION: Dataviews provide interactive graphics over web using Netscape plug-ins and Java

M2 Presswire, pN/A
August 1, 1996

Language: English Record Type: Fulltext
Document Type: Newswire; Trade

Ginger R. DeMille

Word Count: 511

... knobs, buttons, toggles, etc), and a point-and-click editor which developers can use to **create** custom dynamic **graphics**. Dynamic graphics have been available to Windows and Unix developers using DV-Xpresso's OCX controls and X-widget versions for over a year.

A standard Netscape plug-in is...

16/3,K/37 (Item 5 from file: 636)
DIALOG(R)File 636:Gale Group Newsletter DB(TM)
(c) 2005 The Gale Group. All rts. reserv.

03019638 Supplier Number: 46163323 (USE FORMAT 7 FOR FULLTEXT)
LOTUS: Lotus announces Lotus Components

M2 Presswire, pn/A

Feb 21, 1996

Language: English Record Type: Fulltext
Document Type: Newswire; Trade

Word Count: 1486

... and diagram, file viewer, comment tool, project scheduler and spreadsheet, plus a collection of application **development** controls including button, picture, radio, check box, combo box, list box, slider, spinner, progress gauge, label, text box and outline.

* Lotus Component Developer Toolkit provides Notes and OCX developers with the tools and specifications for creating Lotus Components. The toolkit includes a set...

16/3,K/38 (Item 1 from file: 810)
DIALOG(R)File 810:Business Wire
(c) 1999 Business Wire . All rts. reserv.

0894986 BW1261

STOCKOBJECTS BENN: StockObjects names Internet Stock Photo Library Pioneer Nathan Benn as CEO

August 17, 1998

Byline: Business Editors

...and then Chairman of the Board until January 1997. PNI's products help companies to **acquire**, manage, and **license** digital content on the Internet. Companies using PNI products to manage images include Simon & Schuster, Paramount, MGM/Turner, and Ford Motor Company U.K. Eastman Kodak Company...

16/3,K/39 (Item 2 from file: 810)
DIALOG(R)File 810:Business Wire
(c) 1999 Business Wire . All rts. reserv.

0571169 BW0333

Business Wire Recap

April 01, 1996

Byline: Editors

...; Brings Low-Price Document-Imaging Client Software To Enterprise Customers (BW0028 07:59)
(KOFAX- IMAGE - PRODUCTS -2) CHICAGO--Kofax Announces Major Upgrade to KIPP ImageControls Visual Programming Toolkit; Version 2.0 adds 32-bit OCX support, form recognition and advanced (BW1036 07:59)
(FILENET/WATERMARK)(FILE) COSTA MESA, Calif.--FileNet and Watermark Announce Innovative Products for Managing Image and Fax Documents in Web Applications, and Web-Based Workflow (BW0031 08:00)
(KOFAX-IMAGE...)

Ginger R. DeMille

16/3,K/40 (Item 1 from file: 813)
DIALOG(R)File 813:PR Newswire
(c) 1999 PR Newswire Association Inc. All rts. reserv.

1035914 NYWEB
PR Newswire Web Site Directory For December 18

DATE: December 19, 1996 09:31 EST WORD COUNT: 2,397

...Earnings to Exceed Market Expectations

<http://www.innovexinc.com>

Integral Vision Announces visionBlox 32-Bit OCX Machine Vision Software

Renders Obsolete Traditional Programming Techniques

<http://www.medar.com>

Data Processing Resources Corporation to Acquire Dallas...

16/3,K/41 (Item 2 from file: 813)
DIALOG(R)File 813:PR Newswire
(c) 1999 PR Newswire Association Inc. All rts. reserv.

0904200 NYM027
LOTUS ANNOUNCES LOTUS COMPONENTS

DATE: January 22, 1996 08:10 EST WORD COUNT: 1,557

...and diagram, file viewer, comment tool, project scheduler and spreadsheet, plus a collection of application development controls including button, picture, radio, check box, combo box, list box, slider, spinner, progress gauge, label, text box and outline.

Lotus Component Developer Toolkit provides Notes and OCX developers with the tools and specifications for creating Lotus Components. The toolkit includes a set...

16/3,K/42 (Item 1 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

00761432
METHODS, CONCEPTS AND TECHNOLOGY FOR DYNAMIC COMPARISON OF PRODUCT FEATURES AND CUSTOMER PROFILE

PROCEDES, CONCEPTS ET TECHNIQUE DE COMPARAISON DYNAMIQUE DE CARACTERISTIQUES D'UN PRODUIT ET DU PROFIL DES CONSOMMATEURS

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Patent and Priority Information (Country, Number, Date):

Patent: WO 200073958 A2 20001207 (WO 0073958)
Application: WO 2000US14459 20000524 (PCT/WO US0014459)

Priority Application: US 99320818 19990527

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AG AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM DZ EE ES
FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU
LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR

TT TZ UA UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW MZ SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English
Filing Language: English
Fulltext Word Count: 151011

Fulltext Availability:

Detailed Description
Claims

Detailed Description

... are compiled. See operation 56a of Figure 11 In operation 56b, a second database is created . The second database has each of the services offered by the current system grouped by...PACs. It also integrates with source code control, testing and deployment tools.

0 Product Application Server - a Java- and CORBA-based server that provides state and session management, built-in load...develop a migration plan that maps out the progression on configuration packages throughout the systems development life cycle. Figure 6 is an illustration showing a model migration plan in accordance with...specification deals with what the system must do, design addresses how the system will be constructed .

Validating that the design actually meets the requirements for functionality, performance, reliability, and usability is...release test, or the conversion test. The operational readiness test becomes especially key in client/ server environments. It has four parts.

0 Roll out test - ensures that the roll out procedures...supports the entire project - information that is used both in systems building and in other management processes

0 Security Management tools 216 enable the development of security components
Quality Management tools...

...required to create documents, spreadsheets, and simple graphics or diagrams. More recently, the ability to access the Internet and browse electronic documentation has been added to the suite of productivity tools.

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Specifically, productivity tools include...a large number of people to work productively together, thus compressing the time required to develop a system.

c) Is there concurrent development of multiple versions of the system?
A comprehensive...aid and the Technology Products and Vendors database, both available on the Knowledge Xchange.

Startup & Shutdown

A comprehensive development environment rapidly becomes sufficiently complex that the startup and shutdown of the environment must be managed carefully, and preferably automated. This is key to ensuring...

...I 0 the carefully sequenced initialization of networking software, databases, web servers and more. Similarly, shutdown involves saving configuration changes as needed and gracefully taking down running software in the correct...the Interaction diagrams described in the class definitions?), automatic propagation of changes to other diagrams, generation of reports, and generation of skeleton code. However, some tools have problems with.

0 Usability and stability

Single users...environments?

It is important to determine how well the product integrates with other design and development tools, presentation services (graphics , multi-media, etc.), data access services (databases and database API

libraries), distribution services (distributed TP...library of predefined widgets or screen elements. This library should be extendible and customizable, allowing developers to create new widget/element definitions or to enhance existing ones.

n) Is multi-language...

...A valid performance model can only be created once a detailed communication design has been developed for the system. The performance model is derived from the detailed communication design. Communication design...the "hi-fi" stage should focus on perfecting the details. In the later stages of development , usability laboratories can be extremely helpful for evaluating system design. Usability labs, which can be...down into three major media types, each with its own set of tools.

2D/3D Images /Animation

Video

Audio

2D/3D Images\Animation

Tools to handle these images range from simple paint packages to highly complex multi-layered animation graphics packages. The images created by these tools may be pixelbased (bitmaps) or vector-based, each with their own advantages.

Pixel-based tools (traditional graphics and image processing tools) offer more image flexibility especially in terms of color gradation and shading, but produce relatively large files. This format is therefore useful where the use of high-quality textured images , or highly colored images is important, but where file storage and transmission is not an...

...is defined by formulae rather than pixel position) offer much smaller file sizes, and dynamic image re-sizing, while producing excellent print quality, but cannot easily handle shading and color gradation.

This format is more...the presentation or repositories components.

Management applications tools include capacity planning tools, performance management tools, license management tools, remote management tools, systems monitoring tools, scheduling tools, help desk tools, etc.. Some Enterprise...actual costs, determines chargeback costs based on pre-defined algorithms and bills users for service rendered .

194

Billing & Accounting also makes payments to service providers for services and equipment provided in...

Claim

... Services Client Service

Hall Hrrp pag

flr@ser nasad, web mgmi a File Tranider SWIM

Rendering (FrP)

F-APPReadw Proxy Sooint Bawra

E,:.V@wi SerAces corrimnicalons - SS

Somme

Web Application...web browsers E3 Provides adapter or mechanism to communicate with mdarnall system E3 Supports page rendering for multiple languages hat provide additional content such se catalog information

O Supports multiple content...Even't/6 ate

Performance Management Product Validation Archiving

Generation

Security Management

System Startup

and Shutdown Physical Site Managemen]t Release TesUNG

Network Management

1348

131 E;

N

Integration Platform-:
Network...Internet Service

nr Based Web Content Caching IITTP ' Page File Transfer Somice
Auth tication (RADIUS) Rendering (FTP)
F-Web @Dsts Application Pmxyr of @SeNjce Secure BrowSA'
ement Services Firewall Service Communications...NETWORK 2810
2812
AFFORDING FIREWALL SERVICES ON THE NETWORK
Figure 28
1416
PROVIDING HTTP PAGE RENDERING OVER A NETWORK FRAMEWORK 2900
2902
ENABLING SECURE BROWSER COMMUNICATION OVER THE NETWORK
FRAMEWORK
AFFORDING...

16/3,K/43 (Item 2 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

00745760 **Image available**

METHOD FOR INTERDEPENDENTLY VALIDATING A DIGITAL CONTENT PACKAGE AND A
CORRESPONDING DIGITAL LICENSE
PROCÉDE PERMETTANT DE VALIDER INDEPENDAMMENT UN PAQUET A CONTENU NUMÉRIQUE
ET UNE LICENCE NUMÉRIQUE CORRESPONDANTE

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Patent and Priority Information (Country, Number, Date):

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Application: WO 2000US4983 20000225 (PCT/WO US0004983)

Priority Application: US 99126614 19990327; US 99290363 19990412; US
2000482928 20000113

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB
GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA
UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 23260

Fulltext Availability:

Detailed Description
Claims

English Abstract

...a piece of digital content in an encrypted form, and a corresponding
digital license for rendering the digital content. A first key is
derived from a source available to the device...
...signature and the digital content package. A second key is derived based
on the first digital signature, and a second digital signature is
obtained from the license. The second key is applied to the second
digital signature to validate the second digital...

Detailed Description

... allows access to encrypted digital content only in accordance with 15
parameters specified by license rights acquired by a user of the
digital content.

BACKGROUND OF THE INVENTION

Digital rights management and enforcement is highly desirable in connection...

...board, an electronic network, the Internet, etc. Upon being received by the user, such user renders or the digital content with the aid of an appropriate rendering device such as a media player on a personal computer or the like.

Typically, a...

...A need exists, then, for providing an enforcement architecture and method that allows the controlled rendering or playing of arbitrary forms of digital content, where such control is flexible and definable...

...the content owner of such digital content. A need also exists for providing a controlled rendering environment on a computing device such as a personal computer, where the rendering environment includes at least a portion of such enforcement architecture. Such controlled rendering environment allows that the digital content will only be rendered as specified by the content owner, even though the digital content is to be rendered on a computing device which is not under the control of the content owner.

Further...

...license at the user's computing device or client machine.

When a user attempts to render the digital content on a computing device, the rendering application invokes a Digital Rights Management (DRM) system on such user's computing device. If the user is attempting to render the digital content for the first time, the DRM system either directs the user to a license server to obtain a license to render such digital content in the manner specified, or transparently obtains such license from such license server without any action necessary on the part of the user. The license includes:

- a decryption...
...a digital signature that ensures the integrity of the license.

The user cannot decrypt and render the encrypted digital content without obtaining such a license from the license server. The obtained license is stored in a license store in the user's computing device.

Importantly, the license server only issues a license to a DRM system that is 'trusted' (i.e., that can authenticate itself). To implement...

...as provided by an approved certifying authority. The public key is made available to the license server for purposes of encrypting portions of the issued license, thereby binding such license to such...

...a black box server an updated secure black box when the user first requests a license. The black box server provides the updated black box, along with a unique public/private key pair. Such updated...

...the client machine sends the black box public key, version number, and signature to the license server, and such license server issues a license only if the version number is current and the signature is valid. A license request...

...a key ID that identifies the decryption key associated with the requested digital content. The license server uses the black box public key to encrypt the decryption key, and the decryption key...

...the downloaded license has been stored in the DRM system license store, the user can render the digital content according to the rights conferred by the license and specified in the license terms. When a request is made to render the digital content, the black box is caused to decrypt the decryption key and license...

...the requestor is allowed to play such content. The decrypted content is

provided to the rendering application for rendering .

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the following detailed description...

...with the Digital Rights Management (DRM) system of the computing device of Fig. 4 to render content in accordance with one embodiment of the present invention;
Fig. 6 is a flow...

...system of Fig. 4 to validate a license and a piece of digital content and render the content in accordance with one embodiment of the present invention;

Fig. I I is...license rules that must be satisfied before such digital content 12 is allowed to be rendered on a user's computing device 14. Such license rules are embodied within a dicitral...architecture IO includes an authoring tool 18, a content-key database 20, a content server 22, a license server 24, and a black box server 26, as well as the aforementioned user's computing...

...information are primarily employed by the user and the user's computing device 14 to obtain a license 16 to render the digital content 12. Accordingly, such accompanying instructions / rules IO information may include an appropriately formatted...or security issues. As discussed below, such issues are dealt with in connection with the license server 24 and the relationship between such license server 24 and the user's computing device 14. In one embodiment of the present invention...

...server 22 sending (KD (PU-CS) S (PR-CS)) to the authoring tool 18.

ARCHITECTURE - License Server 24

Referring again to Fig. 1, in one embodiment of the present invention, the license server 24 performs the functions of receiving a request for a license 16 from a user...includes the decryption key (KD) for decrypting the digital content 12. Such

I L

zn
license server 24 and such functions will be explained in more detail below.

Preferably, and like the content server 22, the license server 24 in the architecture IO has a unique public / private key pair (PU-LS., PR ...

...in more detail below.

I O As with the authoring tool 18 and the content server 22, the license server 24 is implemented on an appropriate computer, processor, or other computing machine by way of...
...22 may reside on a single computer, processor, or other computing machine together with the license server 24, each in a separate work space.

In one embodiment of the present invention, prior to issuance of a license 16, the license server 24 and the content server 22 enter into an agency agreement or the like, wherein the license server 24 in effect agrees to be the licensing authority for at least a portion of ...

...one content server 22 may enter into an agency agreement or the like with several license servers 24. and/or one license server 24 may enter into an agency agreement or the like with several content servers 22, all without departing from the spirit and scope of the present invention.

Preferably, the license server 24 can show to the world that it does in fact have the authority to...

...2 distributed by the content server 22. To do so, it is preferable that the license server 24 send to the content server 22 the license server 24 public key (PU-LS). and that the content server 22 then send to the license server 24 a digital certificate containing PU-LS as the contents signed by the content server...

...with a piece of digital content 12, and as part of the licensing function, the license server 24 must have access to the decryption key (KD) for such digital content 12. Accordingly, it is preferable that license server 24 have access to the content-key database 20 that has the decryption key (KD...)

...will be explained in more detail below.

As with the authoring tool 18, the content server 22, and the license server 24, the black box server 26 is implemented on an appropriate computer, processor, or other...

...detailed discussion in the present disclosure. Moreover, in one embodiment of the present invention the license server 24, the authoring tool 18, and/or the content server 22 may reside on a will not be rendered unless the user obtains a license 16 that permits the rendering in the manner sought. Preferably, then, the user's computing device 14 must provide a...

...2 that can satisfy to the content owner that such computing device 14 will not render the digital content 12 except according to the license rules embodied in the license 16...

...that is enabled when a user requests that a piece of digital content 12 be rendered, that determines whether the user has a license 16 to render the digital content 12 in the manner sought, that effectuates obtainin(. such a license 16...

...content 12 according to the license 16, and that decrypts the digital content 12 for rendering purposes if in fact the user has such right according to such license 16. The...

...functions with the architecture 10 disclosed herein: (1) content acquisition, (2) license acquisition, (3) content rendering, and (4) black box 30 installation / update. Preferably, any of the functions can be performed...

...stored in a manner such that the obtained digital content 12 is accessible by a rendering application 3)4 (to be described below) running on the computing device 14. and by...
...acquired as any other data file.

However, the DRM system 3)2 and/or the rendering application 3)4 may include an interface (not shown) designed to assist the user in...

...known to be sources of digital content 12, and the like.

DRM SYSTEM 32 - Content Rendering , Part 1
1 0 Referring now to Fig. 5A. in one embodiment of the present...

...computing device 14 in the form of a stored file, the user will attempt to render the digital content 12 by executing some variation on a render command (step 501). For example, such render command may be embodied as 1 5 a request to 'play' or 'open' the digital...

...on an icon representative of the digital content 12. of course, other embodiments of such render command may be employed without departing from the spirit and scope of the present invention. In general, such render command may be considered to be executed whenever a user directs that a file having...
...content 12 be opened, run., executed. and/or the like.

Importantly, and in addition, such render command may be embodied as a request to copy the digital content 12 to another...

...an audio form, etc. As should be understood, the same digital content 12 may be rendered in one form, such as on a computer screen, and then in another form, such as a printed document. In the present invention, each type of rendering is performed only if the user has the right to do so. as will be...computing device 14 can determine based on such extension to start a particular kind of rendering application 34. For example, if the file name extension indicates that the digital content 12 is a text file, the rendering application 34 is some form of word processor such as the "MICROSOFT WORD", distributed by...

...indicates that the digital content 12 is an audio, video, and/or multimedia file, the rendering application 34 is some form of multimedia player, such as "MICROSOFT MEDIA PLAYER", also distributed by MICROSOFT Corporation of Redmond, Washington.

I O Of course, other methods of determining a rendering application may be employed without departing from the spirit and scope of the present invention...

...e., the aforementioned header information), where the meta-data includes information on the type of rendering application 34 necessary to render such digital content 12.

Preferably, such rendering application 34 examines the digital content 12 associated with the file name and determines...

...rights-protected form (steps 503, 505). If not protected, the digital content 12 may be rendered without further ado (step 507). If protected, the rendering application 34 determines from the encrypted digital content 12 that the DRM system 32 is necessary to play such digital content 12. Accordingly, such rendering application 34 directs the user's computing device 14 to run the DRM system 32 thereon (step 509). Such rendering application 34 then calls such DRM system 32 to decrypt the digital content 12 (step...

...the valid license 16. Preferably, once the DRM system 32 has been called by the rendering application 34. Such DRM system 32 assumes control from the rendering application 34, at least for purposes of determining whether the user has...

...on the I O reviewed license rules whether the requesting user has the right to render the requested digital content 12 in the manner sought, among other things. As should be understood, the licensee evaluator 36 is a trusted component in the DRM system 32. In the present disclosure, to be 'trusted' means that the license server 24 (or any other trusting element) is satisfied that the trusted element will carry out...

...the license evaluator 36 determines that a user does in fact have the right to render the requested digital content 12 in the manner sought, the black box 30 is provided...

...box 30 is also a trusted component in the DRM system 32.

In particular, the license server 24 must trust that the black box 30 will perform the decryption function only...

...departing from the spirit and scope of the present invention. Preferably, and like the content server 22 and license server 24, the black box 30 in the DRM system 32 has a unique 1...necessary. For example, if a particular license 16 only allows a pre-determined number of renderings of a piece of corresponding digital content 12, the state store 40 maintains state information on how many renderings have in fact taken place in connection with such license 16. The state store 40...

...system 32 on the computing device 14 in an encrypted form.

DRM SYSTEM 32 - Content Rendering , Part 2

Referring again to Fig. 5A, and again discussing content rendering in one embodiment of the present invention, once the DRM system 32 has assumed control from the calling rendering application 3)4. such DRM system '32 then begins the process of determining whether the user has a right to render the requested digital content 12 in the manner sought. In particular, the DRM system 3...

...steps 515, 517) or attempts to acquire a valid, enabling license 16 from the license server 24 (i.e. performs the license acquisition function as discussed below and as shown in...

...r-1
described below.

Assume now that the DRM system 32 has been requested to render a piece of digital content 12, and one or more licenses 16 corresponding thereto are...

...26 whether the content 28 is in the form that it was received from the license server 24 (i.e., is valid).

If no valid license 16 is found in the license...system 32 next determines whether such valid license 16 gives the user the right to render the corresponding digital content 12 in the manner desired (i.e., is enabling) (steps 607...).

...with the digital content 12. For example, such rights description may allow the user to render the digital content 12 into a sound, but not into a decrypted digital copy.

As...

...the user is located, what type of computing device 14 the user is using, what rendering application 34 is calling the DRM system '32, the date, the time, etc. In addition...

...to the license 16, (i.e., how many times the digital content 12 has been rendered , the total amount of time the digital content 12 has been rendered . etc.), where such state information is stored in the state store 40 of the DRM...

...thereof, an identification 44 of the user and particular aspects thereof, an identification of the rendering application 4 and particular aspects thereof, a system clock 46, and the like. If no valid license 16 is found that provides the user with the right to render the digital content 12 in the manner sought. the DRM system 3) 2 may then...

...16 is obtainable.

of course, in some instances the user cannot obtain the right to render the digital content 12 in the manner requested, because the content owner of such I...

...change the rights currently available

I t7
for such digital content 12 by changing the licenses 16 available for such digital content 12.

DRM SYSTEM 32 - License Acquisition

Referring now to Fig. 7, if in fact the license evaluator 36 does not find...

...content I -2 is packaged with information in an un-encrypted form regarding how to obtain a license 16 for rendering such digital content 12 (i.e., license acquisition information).

In one embodiment of the present invention. such license acquisition information may include (among...

...or more Internet web sites or other site information at which one or more appropriate license servers 24 may be accessed, where each such license server 24 is in fact capable of issuing a license 16

corresponding to the digital content...

...manners without departing from the spirit and scope of the present invention. For example, the license 16 may be obtained from a license server 24 at an electronic bulletin board, or even in person or via regular mail in the form of...
...the like.

Assuming that the location for obtaining a license 16 is in fact a license server 24 on a network, the license evaluator 3) 6 then establishes a network connection to such license server 24 based on the web site or other site information, and then sends a request for a license 16 from such connected license server 24 (steps 701, 703). In I 0 particular, once the DRM system 32 has contacted the license server 24, such DRM system 32 transmits appropriate license request information 36 to such license server 24. In one embodiment of the present invention, such license 16 request information 36 may...type of license 16 requested (if in fact multiple types are available);
- the type of rendering application 34 that requested rendering of the
:n
digital content 12.

and/or the like, among other things. Of course, greater or lesser amounts of license 16 request information 36 may be transmitted to the license server 24 by the DRM system without departing from the spirit and scope of the present invention. For example, information on the type of rendering application 34 may not be necessary, while additional information about the user and/or the user's computing device 14 may be necessary.

Once the license server 24 has received the license 16 request information 36 from the DRM system 32, the license server 24 may then perform several checks for trust / authentication and for other purposes. In one embodiment of the present invention, such license server 24 checks the certificate with the digital signature of the certifying authority to determine whether such has been adulterated or otherwise modified (steps 705, 707). If so, the license server 24 refuses to grant any license 16 based on the request information 36. The license server 24 may also maintain a list of known 'bad' users and/or user computing...

...based on the content ID (or package ID) iii-i the license request information. the license server 24 can interrogate the content-key database 20 (Fig. 1) and locate a record corresponding...

...example, for a relatively small license fee, a license 16 allowing a limited number of renderings may be available. For a relatively greater license fee, a license 16 allowing unlimited renderings until an expiration date may be available. For a still greater license fee, a license 16 allowing unlimited renderings without any expiration date may be available. Practically any type of license 16 having any kind of license terms may be devised and issued by the license server 24 without departing from the spirit and scope of the present invention.

In one embodiment...

...accomplished with the aid of a web page or the like as transmitted from the license server 24 to the user's computing device 14. Preferably, such web page includes information on all types of licenses 16 available from the license server 24 for the I 0 digital content 12 that is the basis of the license 16 request.

In one embodiment of the present invention, prior to issuing a license 16, the license server 24 checks the version number of the black box -3) 0 to determine whether such...

...secure and protected from attacks from a user with nefarious purposes (i.e., to improperly render digital content 12 without a license 16, or outside the terms of a corresponding license...).

...successfully attacked by such a nefarious user. Preferably, and as a

matter of trust, if the license server 24 receives a license request with request information ')6 including a black box 30 version number that is not relatively current, such license server 24 refuses to issue the requested license 16 until the corresponding black box 30 is upgraded to a current version. as will be described below. Put simply, the license server 24 will not trust such black box 30 unless such black box 30 is relatively...

...200 instances of decryption). Moreover, 'current' may be based on policy as set by each license server 24, where one license server 24 may define 'current' differently from another license server 24. and a license server 24 may further define 'current' differently depending on the digital content 12 for which ...or depending on the type of license 16 requested, among other things.

Assuming that the license server 24 is satisfied from the version number of a black box 30 or other indicia thereof that such black box 30 is current, the license server 24 then proceeds to negotiate terms and conditions for the license 16 with the user (step 713).

Alternatively, the license server 24 negotiates the license 16 1 5 with the user, then satisfies itself from the version number of the... . . .the type of license 16 to be issued. and other factors. For example, if the license server 24 is merely issuing a paid-up unlimited use license 16, very little need be...

...and other details, such items and details may need to be worked out between the license server 24 and the user before the license 16 can be issued.

As should be understood...

...the circumstances, the license negotiation may require that the user provide further information to the license server 24 (for example, information on the user, the user's computing device 14, etc.).

Importantly, the license negotiation may also require that the user and the license server 24 determine a mutually acceptable payment instrument (a credit account, a debit account, a mailed...

...the terms of the license 16 have been negotiated and agreed to by both the license server 24 and user (step 715). a digital license 16 is generated by the license server 24 (step 719), where such generated license 16 is based at least in part on...

...receive in the license request
(i.e., (PU-1313 (KD));
- a digital signature from the license server 24 (without any attached certificate) based on (KD (DRL)) and (PU-BB (KD)) and encrypted with the license server 24 private key (i.e., (S (PR-LS)))--, and
- the certificate that the license server 24 obtained previously from the content server 22, such certificate indicating that the license server 24 has the authority from the content server 22 to issue the license 16 (i...).

...user's computing device 14 may become irretrievably lost. Accordingly, it is preferable that the license server 24 maintain a database 50 of issued licenses 16 1 5 (Fig. 1), and that such license server 24 provide a user with a copy or re-issue (hereinafter 're-issue') of an...

...taken into account when re-issuing a license 16. For example, a fixed number of renderings license 16 might legitimately be re-issued in a pro-rated form after a relatively...

...Black Box 30

As was discussed above, as part of the function of acquiring a license 16, the license server 24 may deny a request for a license 16 from a user ...Such 'lite' black box 30 is then upgraded to a unique regular version prior to rendering a piece of digital content 12. As should be understood, if each black box 3...

...the DRM system 32 at any time, such as for example a time when a

license server 24 deems the black box ')0 not current. as was discussed above.

Thereafter, the black...

...license acquisition function, is a proffer or vouching mechanism from the certifying authority that a license server 24 should trust the black box ')0. Of course, the license server 24 must trust the certifying authority to such a . tn certificate for a black box 30 that is in fact trustworthy. It may be the case, in fact, that the license server 24 does not trust a particular certifying authority and refuses to - t7 honor any certificate...

...905). Accordingly, the upgraded black box 30 can still employ the old key pairs to access older digital content 12 and older corresponding licenses 16 that were generated according to such old key pairs, as will be discussed in...is not intended for such other computing device 14, and does not allow any requested rendering to proceed on such other computing device 14.

Once the new black box 30 is...

...a license acquisition function or with any other 1 5 function.

DRM SYSTEM 32 - Content Rendering , Part 3

Referring now to Fig. 513, and assuming, now, that the license evaluator '36...

...least one of such valid licenses 16 provides the user with the rights necessary to render the corresponding digital content 12 in the manner sought (i.e., is enabling), the license...

...36 then selects one of such licenses 16 for further use (step 519). Specifically, to render the requested digital content 12, the license evaluator '16 and the black box 30 'in...

...KD) for the digital content 12 and permission from the license evaluator 3) 6 to render the digital content 12, control may be returned to the rendering application 3) 4 (steps 525, 527). In one embodiment of the present invention, the rendering application 4 then calls the DRM system 32 / black box 30 and directs at least...

...then the black box '10 returns the decrypted digital I 0 content 12 to the rendering application 34 for actual rendering (steps 5')'), 535). The rendering application 34 may either send a portion of the encrypted digital content 12 or the...

...without departing from the spirit and scope of the present invention.

5 Preferably, when the rendering application 3) 4 sends digital content 12 to the black box 30 for decryption, the black box 30 and/or the DRM system 32 authenticates such rendering application 34 to ensure that it is in fact the same rendering application 34 that initially requested the DRM system-1 3) 2 to run (step 53 1).

Otherwise, the potential exists that rendering approval may be obtained improperly by basing the rendering request on one type of rendering application 34 and in fact rendering with another type of rendering application 3) 4. Assuming the authentication is successful and the digital content 12 is decrypted by the black box '30, the rendering application 34 may then render the decrypted digital content 1.) (steps 533, 535).

Sequence of Key Transactions Referring now to...

...Mainly, in sucl sequence. the DRM system 32 obtains the decryption key (KD) from the license 16. uses information obtained from the license 16 and the digital content 12 to authenticate or ensure the validity of both. and then determines whether the license 16 in fact provides the right to render the digital

L

content 12 in the manner sought. If so, the diaital content 12 may be rendered .

t@1

Bearing in mind that each license 16 for the digital content 12. as...

...30 public key (PU-BB) (i.e.,(PU-BB (KD));
- the digital signature from the license server 24 based on (KD
(DRL))
and (PU-BB (KD)) and encrypted with the license server 24 private key
(i.e., (S (PR-LS))); and
15 - the certificate that the license server 24 obtained previously
from the
content server 22 (i.e., (CERT (PU-LS) S (PR...to decrypt the digital
content 12 without any further ado. However, and also importantly. the
license server 24 trusts the black box 30 not to do so. Such trust was
established at the time such license server 24 issued the license
16 based on the certificate from the certifying authority vouching for
the trustworthiness of such...

...PU-CS) to satisfy itself that the certificate is valid (step 1007),
signifying that the license server 24 that issued the license 16 had
the authority from the content server 22 to...

...S (PR-LS)) from the license 16. the black box '30
applies the newly obtained license server 24 public key (PU-LSI) to
satisfy itself that the license 16 is valid (step...

...device 14 has the right based on the DRL 48 in the license 16 to render
the corresponding digital content 12 in the manner sought (i.e.. whether
the DRL 48...

...user's computing device 14 has the right based on the DRL 48 terms to
render the corresponding digital content 12 in the manner sought, the
license evaluator 3 6 informs the black box 0 that such black box 0 can
render the corresponding digital content 12 according to the decryption
key (KD). The black box 30...

...12 and the license 16 are in the same form as issued from the content
server 22 and the license server 24, respectively. Accordingly. it
is difficult if not impossible to decrypt the digital content 12 by
bypassing the license server 24, and also difficult if not impossible
to alter and then decrypt the di gital...

...performed as follows.

Rather than having a signature encrypted by the private key of the
license server 16 (PR-LS), as is seen in Fig. 8, each license 16 has a
signature...

...The private root key (PR-R) is known only to a root entity, and a
license server 24 can only issue licenses 16 if such license server
24 has arranged with the root entity to issue licenses 16.

In particular, in such embodiment.

I . the license server 24 provides its public key (PU-LS) to the root
entity;
2. the root entity returns the license server public key (PU-LS) to
such
license server 24 encrypted with the private ...PR-R) (i.e.,
15 (CERT (PU-LS) S (PR-R))-1 and
the license server 24 then issues a license 16 with a signature
encrypted with the license server private key (S (PR-LS)). and also
attaches to the license the certificate froin the...

...PU-R) to the attached certificate (CERT
(PU-LS) S (PR-R)) to obtain the license server public key (PU-LS);
and
2. applies the obtained license server public key (PU-LS) to the
signature of the license 16 (S (PR-LS)).

Importantly, it should be recognized that just as the root entity gave the license server 24 permission to issue licenses 16 by providing the certificate (CERT (PU-LS) S (PR-R)) to such license server 24. such license server 24 can provide a similar certificate to a second license server 24 (i.e., (CERT (PU-LS2) S (PR-LS 1)), thereby allowing the second license server to also issue licenses 16. As should now be evident, a license 16 issued by the second license server would include a first certificate (CERT (PU-LS 1) S (PR-R)) and a second...

...periodically change the private root key (PR-R), thereby I 0 likewise periodically requiring each license server 24 to obtain a new certificate (CERT (PU-LS) S (PR-R)). Importantly, as a requirement for obtaining such new certificate, each license server may be required to upgrade itself. As with the black box 30, if a license server 24 is relatively current, i.e., has been upgraded relatively recently, it is less likely that license server 24 has been successfully attacked.

Accordingly, as a matter of trust, each license server 24 is preferably required to be upgraded periodically via an appropriate upgrade trigger mechanism such...

...rights description or terms of a license 16 to determine if such DRL 48 allows rendering of a corresponding piece of digital content 12 in the manner sought. In one embodiment...if available; activating a license 16, if available; and/or performing license acquisition from a license server 24.

CONCLUSION

The programming necessary to effectuate the processes performed in connection with the present...the present invention comprises a new and useful enforcement architecture IO that allows the controlled rendering or playing of arbitrary forms of digital content 12, where such control is flexible and...

...owner of such digital content 12. Also, the present invention comprises a new useful controlled rendering environment that renders digital content 12 only as specified by the content owner, even though the I 0 digital content 12 is to be rendered on a computing device 14 which is not under the control of the content owner...

Claim

... of digital content in an
t:1
encrypted form; and
a corresponding digital license for rendering the digital content.
the method comprising:
deriving a first key from a source available to...

...and the digital content package:
I 0 deriving a second key based on the first digital signature;
obtaining a second digital signature from the license ; and
applying the second key to the second digital sionature to validate the second digital...

...description specifying terms and conditions that must be satisfied before the digital content may be rendered , the license rights description being encrypted with the decryption key (KD) (i.e., (KD (DRL ...

...description specifying terms and conditions that must be satisfied before the digital content may
be rendered , the method further comprising:
evaluating the license terms and conditions to determine whether the digital content is permitted to be rendered in the manner sought;
if so, applying (KD) to the encrypted digital content to decrypt such encrypted digital content; and
rendering the decrypted digital content.
4:)

17 The method of claim I 1 wherein the encrypted...description specifying terms and conditions that must be satisfied before tile digital content may be rendered , the license rights description being encrypted with

the decryption key (KD) (i.e., (KD (DRL...

...description specifying terms and conditions that must be satisfied before the digital content may be rendered , the method further comprising: evaluating the license terms and conditions to determine whether the digital content is permitted to be rendered in the manner sought; if so, applying (KD) to the encrypted diaital content to decrypt such encrypted digital content; and rendering the decrypted digital content.

25 A method for a device to interdependently validate a piece of digital content and a corresponding digital license for rendering the digital content. the digital content being encrypted, the encrypted digital content being decryptable according...

...DRL) specifying terms and conditions that must be satisfied before the digital content may be rendered , the method further comprising; evaluating the license terms and conditions to determine whether the digital content is permitted to be rendered in the manner sought; if so, applying (KD) to the encrypted digital content to decrypt such encrypted digital content, and rendering the decrypted digital content.

I

28 The method of claim 27 wherein the II cerise...a piece of digital content in an encrypted form; and a corresponding digital license for rendering the digital content, the method comprising: deriving a first key from a source available to...

...digital signature and the digital content package; deriving a second key based on the first digital signature; 15 obtaining a second digital signature from the license : and applying the second key to the second digital sianature to validate the second digital...

...description specifying terms and conditions that must be satisfied before the digital content may be rendered . the license rights description being encrypted with the decryption key (KD) (i.e.. (KD (DRL

...description specifying terms and conditions that must be satisfied before the digital content may be rendered , the method further comprising: evaluating the license terms and conditions to determine whether the digital content is permitted to be rendered in the manner sought; if so, applying (KD) to the encrypted digital content to decrypt such encrypted digital content; and rendering the decrypted digital content.

45 The method of claim 39 wherein the encrypted digital content... description specifying terms and conditions that must be satisfied before the digital content may be rendered , the license rights description being encrypted with the decryption key (KD) (i.e., (KD (DRL...

...description specifying terms and conditions that must be satisfied before the digital content may be rendered , the method further comprising: evaluating the license terms and conditions to determine whether the 15 digital content is permitted to be rendered in the nianner sought; if so, applying (KD) to the encrypted digital content to decrypt such encrypted digital content; and rendering the decrypted digital content.

Digital Content 12
T PU-CS, PR-CS
PaCKage
Authoring Tool...

...Key Database
20

Content ID
Key ID
Key (KD)
License Data
i
PU-I.S, License Server 24 License 16 w/(KD) User's Q
PR.LS Devi(Issued License Architecture 10 [
!@ack Box...

...CS) S (PR-CS) CERT (PU-LS) S (F
Fig. 3 Figo 8
/12
----- "-----",

Package Rendering
12p Application 34

License Evaluator
Black Box 30
36
PU-BB, PR-BB
Machine
Info...
...32
L-----

System
Clock 46
User's Computing Device 14

Figs 4
/12
Attempt to Render - 501
Check For DRIVI Protection - 503
 Render - rotecte
507 to No 505
Yes
4r
Run DIRM
System 32 - 509
Hand-Over to...

...Enabling Licenses 16
In License Store 38 - 515
Acquire
License 16 na
4 No
from License license?
 Server 24
Yes
4r
to Fig. 5B
/12
from Fig. 5A
Select Valid, Enabling License 16...

...to Black Box 30 - 521
PR-BB (PU-BB (KD)) = (KD) - 523
Hand-Over to Rendering Application 34 - 525
 Rendering Application 34 Assumes Control - 527
 Rendering Application 34 Calls Black
Box 30 to Decrypt Digital Content 12
According to Decryption Key (KD) - 529
1
Black Box 30 Authenticates Rendering
A@p'lication 34 - 531
Black Box 30 Decrypts - 533
 Rendering Application 34 Renders - 535

Fig. 5B
/12
Check License Store 38 for
Corresponding Licenses 16 - 601
Check Each...

...603
Acquire 4 No gna
License 16 ? -6
yes
Check Each valid
License 16 for
Rendering Rights
607
Acquire No ny a License 1
License 16 Grants Rights? - 6
Yes
Valid, Enabling
License 16
Fig. 6
PCT/US00/04983/12
Contact License Server 24 . 701
F-Send License Request - 703
License Server 24 Checks Request Signature - 705
Error is No gna u
alid? - 707
Y"
License Server 24 Checks Black
Box 30 Version 709
Upgrade ersion
Black Box 4 No ptable? - 7...

16/3,K/44 (Item 3 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00745759 **Image available**
RENDERING DIGITAL CONTENT IN AN ENCRYPTED RIGHTS-PROTECTED FORM
RESTITUTION DE CONTENU ELECTRONIQUE SOUS FORME CRYPTEE DE PROTECTION DES
DROITS

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RENDERING DIGITAL CONTENT IN AN ENCRYPTED RIGHTS-PROTECTED FORM

Fulltext Availability:

Detailed Description

Claims

English Abstract

...system locates each license in the license store corresponding to the digital content to be rendered, selects one of the located licenses, obtains (KD) from the selected license, decrypts the digital content with (KD), and returns the decrypted digital content to the rendering application for actual rendering.

Detailed Description

Title of the Invention

RENDERING DIGITAL CONTENT IN AN ENCRYPTED

RIGHTS-PROTECTED FORM

CROSS-REFERENCE TO RELATED APPLICATION

This application...

...architecture that allows access to encrypted digital content only in accordance with parameters specified by license rights acquired by a user of the digital content.

BACKGROUND OF THE INVENTION

Digital rights management and enforcement is highly desirable in connection...

...board, an electronic network, the Internet, etc. Upon being received by the user, such user renders or 'plays' the digital content with the aid of an appropriate rendering device such as a media player on a personal computer or the like.

Typically, a...

...A need exists, then, for providing an enforcement architecture and method that allows the controlled rendering or playing of arbitrary forms of digital content, where such control is flexible and definable by the content owner of such digital content. A need also exists for providing a controlled rendering environment on a computing device such as a personal computer, where the rendering environment includes at least a portion of such enforcement architecture. Such controlled rendering environment allows that the digital content will only be rendered as specified by the content owner, even though the digital content is to be rendered on a computing device which is not under the control of the content owner.

Further...

...at the user's computing device or client machine.

When a user attempts to render the digital content on a computing device, the rendering application invokes a Digital Rights Management (DRM) system on such user's computing first time, the DRM system either directs the user to a license server to obtain a license to render such digital content in the manner sought, or transparently obtains such license from such license server without any action necessary on the part of the user. The license includes.

- a decryption...

...a digital signature that ensures the integrity of the license.

The user cannot decrypt and render the encrypted digital content without obtaining it from such a license from the license server. The obtained license is stored in a license store in the user's computing device.

Importantly, the license server only issues a license to a DRM system that is 'trusted' (i.e., that can authenticate itself). To implement...

...as provided by an approved certifying authority. The public key is made available to the license server for purposes of encrypting portions of the issued license, thereby binding such license to such...

...a black box server an updated secure black box when the user first requests a license . The black box server provides the updated black box, along with a unique public/private key pair. Such updated...

...the client machine sends the black box public key, version number, and signature to the license server , and such license server issues a license only if the version number is current and the signature is valid. A license request...

...a key ID that identifies the decryption key, associated with the requested digital content. The license server uses the black box public key to encrypt the decryption key, and the decryption key...

...the downloaded license has been stored in the DRM system license store, the user can render the digital content according to the rights conferred by the license and specified in the license terms. When a request is made to render the digital content, the black box is caused to decrypt the decryption key and license...

...the requestor is allowed to play such content. The decrypted content is provided to the rendering application for rendering .

5 BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the followin(y...

...with the Digital Rights Management (DRM) system of the computing device of Fig. 4 to render content in accordance with one embodiment of the present invention;

Fig. 6 is a flow...

...system of Fig. 4 to validate a license and a piece of digital content and render the content in accordance with one embodiment of the present invention;

Fig. I I is...license

rules that must be satisfied before such digital content 12 is allowed to be rendered on a user's computing device 14. Such license rules are embodied within a digital...the architecture 10 includes an authoring tool 18, a content-key database 20, a content server 22, a license server 24, and a black box server 26. as we] I as the aforementioned user's...

...information are primarily employed by the user and the user's computing device 14 to obtain a license 16 to render the digital content 12. Accordingly, such accompanying instructions / rules information may include an appropriately formatted license acquisition...or security issues. As discussed below, such issues are dealt with in connection with the license server 24 and the relationship between such license server 24 and the user's computing device 14. In one embodiment of the present invention...

...server 22 sending (KD (PU-CS) S (PR-CS)) to the authoring tool 18.

ARCHITECTURE - License Server 24

Referring again to Fig. 1, in one embodiment offlie present invention, the license server 24 performs the functions of ...such transmitted license includes the decryption key (KD) for decrypting the digital content 12. Such license server 24 and such functions will be explained in irlore detail below.

Preferably, and like the content server 22, the license server 24 in the architecture IO has a unique public / private key pair (PU-LS, PR ...be explained in more detail below.

As with the authoring tool 18 and the content server 22, the license I O server 24 is implemented on an appropriate computer, processor. or other computing machine by way of...

...22 may reside on a single computer, processor, or other computing machine together with the license server 24, each in a separate work space.

In one embodiment of the present invention, prior to issuance of a license 16, the license server 24 and the content server 22 enter into an agency agreement or the like, wherein the license server 24 in effect agrees to be the licensing authority for at least a portion of ...

...one content server 22 may enter into an agency agreement or the like with several license servers 24, and/or one license server 24 may enter into an agency agreement or the like with several content servers 22, all without departing from the spirit and scope of the present invention.

Preferably, the license server 24 can show to the world that it does in fact have the authority to...

...12 distributed by the content server 22. To do so, it is preferable that the license server 24 send to the content server 22 the license server 24 public key (PU-LS), and that the content server 22 then send to the license server 24 a digital certificate containing PU-LS as the contents signed by the content server...

...with a piece of digital content 12, and as part of the licensing function, the license server 24 must have access to the decryption key (KD) for such digital content 12. Accordingly, it is preferable that the license server 24 have access to the content-key database 20 that has the decryption key (KD...).

...will be explained in more detail below.

As with the authoring tool 18, the content server 22, and the license server 24, the black box server 26 is implemented on any appropriate computer, processor, or other...
...detailed discussion in the present disclosure. Moreover, in one embodiment of the present invention the license server 24, the authoring tool 18, and/or the content server 22 may reside on...specified by such content owner, i.e. that the digital content 12 will not be rendered unless the user obtains a license 16 to 5 that permits the rendering in the manner sought. Preferably, then, the user's computing device 14 must provide a...

...32 that can satisfy to the content owner that such computing device 14 will not render the digital content 12 except according to the license rules embodied in the license 16...

...that is enabled when a user requests that a piece of digital content 12 be rendered, that determines whether the user has a license 16 to render the digital content 12 in the manner sought, that effectuates obtaining such a license 16...

...content 12 according to the license 16, and that decrypts the digital content 12 for rendering purposes if in fact the user has such right according to such license 16. The...

...functions with the architecture 10 disclosed herein: (1) content acquisition, (2) license acquisition, (3) content rendering, and (4) black box 3)0 installation / update. Preferably, any of the functions can be...

...stored in a manner such that the obtained digital content 12 is accessible by a rendering application 3)4 (to be described below) running on the computing device 14, and by...

...easily acquired as any other data file.

However, the DRM system 32 and/or the rendering application 34 may include an interface (not shown) designed to assist the user in obtaining

...known to be sources of digital content 12, and the like.

DRM SYSTEM 32 - Content Rendering , Part I

Referring now to Fig. 5A. in one embodiment of the present invention,
I...

...computing device 14 in the form of a stored file, the user will attempt
to render the digital content 12 by executing some variation on a
render command (step 501). For example, such render command may be
embodied as a request to 'play' or 'open' the digital content 12...

...on an icon representative of the digital content 12. of
course, other embodiments of such render command may be employed
without
departing from the spirit and scope of the present invention. In general,
such render command may be considered to be executed whenever a user
directs that a file havincf...

...content 12 be opened, run. executed. and/or the like.

Importantly, and in addition. such render command may be embodied
as a request to copy the digital content 12 to another...

...an audio form, etc. As should be understood. the same digital content 12
may be rendered in one form, such as on a computer screen. and then in
another form, such as a printed document. In the present invention. each
type of rendering is performed only if the user has the right to do so.
as will be...device 14 can determine based on such extension to start a
particular kind of rendering application 34. For example. if the file
name extension indicates that the digital content 12 is a text file,, the
rendering application 34 is some form of word
processor such as the "MICROSOFT WORD". distributed...

...indicates that the digital content 12 is an audio, video, and/or
multimedia file. the rendering application 34 is some form of
multimedia player. such as "MICROSOFT MEDIA PLAYER", also distributed by
MICROSOFT Corporation of Redmond, Washington.

of course, other methods of determining a rendering application may
be employed without departing from the spirit and scope of the...

...e., the aforementioned header information). where the meta-data includes
information on the type of rendering application 34 necessary to
render such digital content 12.

Preferably, such rendering application 34 examines the digital content
12 associated with the file name and determines whether...

...rights-protected form (steps 503. 505). If not protected, the digital
content 12 may be rendered without further ado (step 507). If
protected. the rendering application 34 determines from the encrypted
digital content 121 that the DRM system 32 is necessary to play such
digital content 12. Accordingly. such rendering application 34 directs
the user's computing device 14 to run the DRM system 32 thereon (step
509). Such rendering application 34 then calls such DRM system '32 to
decrypt the digital content 12 (step...

...valid license 16. Preferably. once the DRM system 32 has been called by
the rendering application 34. such DRM system 32 assumes control from
the rendering application 34. at least for purposes of determining
whether the user has a right to...

...determines based on the reviewed license rules whether the requesting
user has the right to render the requested .10 digital content 12 in
the manner sought, among other things. As should be understood,
thelicenseevaluator36isatrustedcomponentiiintheDRMsystem')2. Inthepresent
disclosure, to be 'trusted' means that the license server 24 (or any
other trusting element) is satisfied that the trusted element will carry
out...

...the license evaluator 36 determines that a user does in fact have the right to render the requested digital content 12 in the manner sought. the black box '10 is

...

...box 30 is also a trusted component in the DRM system 32.

In particular, the license server 24 must trust that the black box '10 will perform the decryption function only in...

...departing from the spirit and scope of the present invention.

Preferably, and like the content server 22 and license server 24, the black box '10 in the DRM system 32 has a unique public...For example, if a particular license 16 only allows a pre-determined number of renderings of a piece of corresponding digital content 12, the state store 40 maintains state information on how many renderings have in fact taken place in connection with such license 16. The state store 40...

...system 32 on the computing device 14 in an encrypted form.

DRM SYSTEM 32 - Content Rendering , Part 2

Referring again to Fig. 5A. and again discussing content rendering in one embodiment of the present invention. once the DRM system 32 has assumed control from the calling rendering application 34, such DRM system 32 then begins the process of determining whether the user has a right to render the requested digital content 12 in the manner sought. In particular, the DRM system 32...

...store (steps 515, 517) or attempts to acquire a valid, enabling license 16 from the license server 24 (i.e. performs the license acquisition function as discussed below and as shown in...

...to be described below.

Assume now that the DRM system 32 has been requested to render a piece of digital content 12, and one or more licenses 16 corresponding thereto are...

...26 whether the content 28 is in the form that it was received from the license server 24 (i.e., is valid).

If no valid license 16 is found in ...system 32 next determines whether such valid license 16 gives the user the right to render the corresponding digital content 12 in the manner desired (i.e., is enabling) (steps 607...

...with the digital content 12. For example, such rights description may allow the user to render the digital content 12 into a sound, but not into a decrypted digital...

...the user is located, what type of computing device 14 the user is using, what rendering application 34 is calling the DRM system 32, the date, the time, etc. In addition...

...to the license 16, (i.e., how many times the digital content 12 has been rendered, the total amount of time the digital content 12 has been rendered, etc.), where such state information is stored in the state store 40 of the DRM...

...thereof, an identification 44 of the user and particular aspects thereof, an identification of the rendering application 34 and particular aspects thereof, a system clock 46, and the like. If no valid license 16 is found that provides the user with the right to render the digital content 12 in the manner sought. the DRM system 32 may then perform...
...16 is obtainable.

of course, in some instances the user cannot obtain the right to render the digital content 12 in the manner requested, because the content owner

of such digital...

...any time change the rights currently available for such digital content 12 by changing the licenses 16 available for such digital content 12.

DRM SYSTEM 32 - License Acquisition

Referring now to Fig. 7, if in fact the license evaluator 3)6 does not
...

...digital content 12 is packaged with information in an un-encrypted form regarding how to obtain a license 16 for rendering such digital content 12 (i.e., license acquisition information).

In one embodiment of the present invention, such license acquisition information may include (among...)

...or more Internet web sites or other site information at which one or more appropriate license servers 24 may be accessed, where each such license server 24 is in fact capable...

...manners without departing from the spirit and scope of the present invention. For example, the license 16 may be obtained from a license server 24 at an electronic bulletin board, or even in person or via regular mail in the form of a...

...the like.

Assuming that the location for obtaining a license 16 is in fact a license server 24 on a network, the license evaluator 3)6 then establishes a network connection to such license server 24 based on the web site or other site information, and then sends a request for a license 16 from such connected license server 24 (steps 701, 70'')). In particular, once the DRM system 32 has contacted the license server 24, such DRM system 32 transmits appropriate license request information 36 to such license server 24. In one embodiment of the present invention, such license 16 request information 36 may...type of license 16 requested (if in fact multiple types are available);
- the type of rendering application 34 that requested rendering of the digital content 12-.

9

and/or the like, among other things. of...

...lesser amounts of license 16

t@
request information 3)6 may be transmitted to the license server 24 by the DRM system
'2withoutdepartingfromthespiritandscopeofthepresesiitliiventioia.
Forexample, information on the type of rendering application 34 may not be necessary, while additional information about the user and/or the user's computing device 14 may be necessary.

Once the license server 24 has received the license 16 request information 36 from the DRM system 32, the license server 24 may then perform several checks for trust / authentication and for other purposes. In one embodiment of the present invention, such license server 24 checks the certificate with the digital signature of the certifying authority to determine whether such has been adulterated or otherwise modified (steps 705, 707). If so, the license server 24 refuses to grant any I 0 license 16 based on the request information 36. The license server 24 may also maintain a list of known 'bad' users and/or user's computing...

...particularly based on the content ID (or package ID) in the license request information, the license server 24 can interrogate the content-key database 20 (Fig. 1) and locate a record corresponding...

...for a relatively small license fee. a license 16 allowing a limited number of renderings may be available. For a relatively greater

licefise fee. a license 16 allowina unlimited renderings until an expiration date may be available. For a still orreater license fee, a license 16 allowing unhinitied renderinas without any expiration date may be available. Practically any type of license 16 having any kind of license terms may be devised and issued by the license server 24 without departing from the spirit and scope of the present invention.

In one embodiment...

...accomplished with the aid of a web page or the like as transmitted from the license server 24 to the user's computing device 14. Preferably, such web page includes information on all types of licenses 16 available from the license server 24 for the digital content 12 that is the basis of the license 16 request.

I 0 In one embodiment of the present invention, prior to issuing a license 16, the license server 24 checks the version number of the black box '10 to determine whether such black...

...secure and protected from attacks from a user with nefarious purposes (i.e., to improperly render digital content 12 without a 5 license 16, or outside the terms of a corresponding...

...attacked by such a nefarious user. Preferably, and as a matter of trust, if the license server 24 receives a license request with request infori-nation 3)6 including a black box 3)0 version number that is not relatively current, such license server 24 refuses to issue the requested license 16 until the corresponding black box-30 is upgraded to a current version, as will be described below. Put simply, the license server 24 will not trust such black box 30 unless such black box 30 is relatively...

...200 instarices of decryption). Moreover, 'current' may be based on policy as set by each license server 24, where one license server 24 may define 'current' differently from another license server 24, and a license server 24 may further define 'current' differently depending on the digital ...on the type of license 16 requested, among other things.

I 0 Assuming that the license server 24 is satisfied from the version number of a black box 30 or other indicia thereof that such black box 3)0 is current, the license server 24 then proceeds to negotiate terms and conditions for the license 16 with the user (Step 713).

Alternatively, the license server 24 negotiates the license 16 with the user, then satisfies itself from the version number of the black box ...

...the type of license 16 to be issued, and other factors. For example, if the license server 24 is merely issuing a paid-up unlimited use license 16, very little need be...

...and other details, such items and details may need to be worked out between the license server 24 and the user before the license 16 can be issued.

As should be understood...

...circumstances, the license negotiation may require that the user provide further infori-riation to the license server 24 (for example, information on the user, the user's computing device 14, etc.).

2 D5 Importantly, the license negotiation may also require that the user and the license server 24 determine a mutually acceptable payment instrument (a credit account, a debit account, a mailed...

...license 16 have been rie(yotiated and acyreed to

Z@ 4n

-3 by both the license server 24 and user (step 715). a di(rital license 16 is (Tenerated by

Z.- tr

the license server 24 (step 719), where such generated license 16 is based at least in part on...

...receive in the license request
(i.e., (PU-BB (KD));
- a digital signature from the license server 24 (without any attached certificate) based on (KD (DRL)) and (PU-BB (KD)) and encrypted with the license server 24 private key (i.e., (S (PR-LS))); and
- the certificate that the license server 24 obtained previously from the content server 22, such certificate indicating that the license server 24 has the authority from the content server 22 to issue the license 16 (i...).

...user's computing device 14 may become irretrievably lost. Accordingly, it is preferable that the license server 24 maintain a database 50 of issued licenses 16 (Fig. 1), and that such license server 24 provide a user with a copy or re-issue (hereinafter 're-issue') of an...

...Black Box 30
As was discussed above, as part of the function of acquiring a license 16, the license server 24 may deny a request for a license 16 from ...Such 'lite' black box 30 is then upgraded to a unique regular version prior to rendering a piece of digital content 12. As should be understood, if each black box 30...

...the DRM system 32 at any time, such as for example a time when a license server 24 deems the black box 30 not current, as was discussed above.
Thereafter, the black...

...acquisition function, is a proof-of-truth or vouching mechanism from the certifying authority that a license server 24 should trust the black box 30. Of course, the license server 24 must trust the certifying authority to such a certificate for a black box 30 that is in fact trustworthy. It may be the case, in fact, that the license server 24 does not trust a particular certifying authority, and refuses to honor any...is not intended for such other computing device 14, and does not allow any requested rendering to proceed on such other computing device 14.

Once the new black box 30 is...

...with a license acquisition function or with any other function.

5 DRM SYSTEM 32 - Content Rendering , Part 3
Referring now to Fig. 513, and assuming, now, that the license evaluator 6...

...least one of such valid licenses 16 provides the user with the rights necessary to render the corresponding digital content 12 in the manner sought (i.e., is enabling). the license...

...36 then selects one of such licenses 16 for further use (step 519). Specifically, to render the requested digital content 12, the license evaluator 36 and the black box 30 in...

...key (KD) for the digital content 12 and permission from the license evaluator 6 to render the digital content 12, control may be returned to the rendering application 34 (steps 525, 527). In one embodiment of the present invention, the rendering application 34 then calls the DRM system 32 / black box 30 and directs...

...12, and then the black box 30 returns the decrypted digital content 12 to the rendering application 34 for actual rendering (steps 525, 527). The rendering application 34 may either send a portion of the encrypted digital content 12 or the...

...12 without departing from the spirit and scope of the present invention.

Preferably, when the rendering application 34 sends digital content 12 to the black box 30 for decryption, the black box 30 and/or the DRM

system 32 authenticates such rendering application 34 to ensure that it is in fact the same rendering application 34 that initially requested the DRM system 3)2 to run (step 5') 1).

Otherwise, the potential exists that rendering approval may be obtained improperly by basing the rendering request on one type of rendering application 34 and in fact renderingwithanother typeofrenderin (application')4. Assumingthe authentication is successful and the digital content 12 is decrypted by the black box 3) 0. the rendering application 3)4 may then render the decrypted digital content 122 (steps 5')3), 53 5)'.

Sequence of Key Transactions
Referring...

...Mainly, in such sequence. the DRM system 32 obtains the decryption key (KD) from the license 16, uses information obtained from the license 16 and the digital content 12 to authenticate or ensure the validity of both, and then determines whether the license 16 in fact provides the right to render the digital content 12 in the manner sought. If so, the digital content 12 may be rendered , Bearing in mind that each license 16 for the digital content 12, as seen in...

...30 public key (PU-BB) (i.e.,(PU-BB (KD));
- the digital signature from the license server 24 based on (KD (DRL))
and (PU-BB (KD)) and encrypted with the license server 24 private key (i.e., (S (PR-LS))); and
- the certificate that the license server 24 obtained previously from the
1 5 content server 22 (i.e., (CERT (PU-LS...to decrypt the digital content 12 without any further ado. However, and also importantly, the license server 24 trusts the black box 30 not to do so. Such trust was established at the time such license server 24 issued the license 16 based on the certificate from the certifying authority vouching for the trustworthiness of such...

...PU-CS) to satisfy itself that the certificate is valid (step 1007). signifing that the license server 24 that issued the license 16 had the authority from the content server 22 to...

...S (PR-LS)) from the license 16, the black box 30 applies the newly obtained license server 24 public key (PU-L S) to satisfy itself that the license 16 is valid...

...device 14 has the right based on the DRL 48 in the license 16 to render the corresponding digital content 12 in the manner sought (i.e., whether the DRL 48...

...corn uting device 14 has the right based on the

p
DRL 48 terms to render the corresponding digital content 12 in the manner sought, the License evaluator 3 6 informs the black box ') 0 that such black box ') 0 can render the corresponding digital content 12 according to the decryption key (KD). The black box 30...

...and the license 1 6 are in the same forma as Issued from the content server 22 and the license server 24. respectivelly. Accordin(lly. it difficult if not impossible to decrypt the digital content 12 by bNlpassing the license server 24, and also difficult if not impossible to alter and then decrypt the digital content...

...alternateIN7performed as follows.

Rather than having a signature encrypted by the private key of the license server 16 (PR-LS), as is seen in Fig. 8, each license 16 has a signature...

...The private root key (PR-R) is known only to a root entity. and a license server 24 can only issue licenses 16 if such license server 24 has arranged with the root entity to issue licenses 16.

In particular, in such embodiment.

I 0 1. the license server 24 provides its public key (PU-LS) to the root entity;

2. the root entity returns the license server public key (PU- LS) to such

license server 24 encrypted with the private root key (PR-R) (i.e., (CERT (PU-LS) S (PR-R))), and

1 5 the license server 24 then issues a license 16 with a signature encrypted with the license server private key (S (PR-LS)), and also attaches to the license the certificate from the...

...PU-R) to the attached certificate (CERT (PU-LS) S (PR-R)) to obtain the license server public key (PU-LS)-, and

2. applies the obtained license server public key (PU-LS) to the signature of the license 16 (S (PR-LS)).

Importantly, it should be recognized that, just as the root entity (Tave the

I t7 license server 24 permission to issue licenses 16 by providing the certificate (CERT

t7 (PU-LS) S (PR-R)) to such license server 24, such license server 24 can provide a similar certificate to a second license server 24 (i.e., (CERT (I'U-LS2) S (PR-LS 1))).

thereby allowing the second license server to also issue 11ceilses 1 6. As should now be evident, a license 16 issued by the second license server would include a first certificate (CERT (PU-LS1) S (PR-R)) and a second certificate...

...entity may periodically change the private root key (PR-R), thereby likewise periodically requiring each license server 24 to obtain a new certificate I 0 (CERT (PU-LS) S (PR-R)). Importantly, as a requirement for obtaining such new certificate, each license server may be required to upgrade itself As with the black box 30, if a license server 24 is relatively current, i.e.. has been upgraded relatively recently, it is less likely that license server 24 has been successfully attacked.

Accordingly, as a matter of trust, each license server 24 is preferably required to be upgraded periodically via an appropriate upgrade trigger mechanism such...

...rights description or terms of a license 16 to determine if such DRL 48 allows rendering of a corresponding piece of digital content 12 in the manner sought. In one embodiment...if available; activating a license 16, if available; and/or performing license acquisition from a license server 24.

CONCLUSION

The programming necessary to effectuate ...invention

1 5 comprises a new and useful enforcement architecture 10 that allows the controlled rendering or playing of arbitrary forms of digital content 12, where such control is flexible and...

...owner of such digital content 12. Also, the present invention comprises a new useful controlled rendering environment that renders digital content 12 only as specified by the content owner, even though the digital content 12 is to be rendered on a computing device 14 which is not under the control of the content owner...

Claim

I A'method for rendering digital content
in an encrypted
rights-protected form, the method comprising:
determining, by a rendering application, that the digital content is in
the
encrypted rights-protected form,
invoking, by the rendering application, a Digital Rights Management

(DRM) system, the DRM system including a license store having...

...DRM system, each license in the license store corresponding to the digital content to be rendered ; selecting, by the DRM system, one of the located licenses; obtaining, by the DRM system...

...KD); and
1 5 returning, by the DRM system. the decrypted digital content to the rendering application for actual rendering .

2 The method of claim 1 wherein the DRM system further includes a public key...
...of claim 1 further comprising, after
zD
invoking the DRM system:
firstly calling, by the rendering application. the DRM system. and
ceding, by the rendering application, control to the DRM system.

4 The method of claim 3) further comprising...

...before decrypting the digital content with (KD):
returning, by the DRM system. control to the rendering application;
secondly calling, by the rendering application, the DRM system to
t) r-I
decrypt the encrypted digital content'. and
authenticating, by the DRM system. the rendering application.

5 The method of claim 4 wherein firstly calling the DRM system includes passing, by the rendering application, a first identification of such rendering application to the DRM system, wherein secondly calling the DRM system includes passing, by the rendering application, a second identification of such rendering application to the DRM system, and wherein authenticating the rendering application includes verifying that the first identification is the same as second 5 identification.

6 The method of claim 1 further comprising
authenticating, by the DRM system, the rendering application.

7 The method of claim 1 wherein selecting one of the
t@
licenses comprises...

...claim 9 wherein the acquiring of the license comprises acquiring the license from a remote license server by way of a communications network.
IL The method of claim 7 wherein the digital content is sought to be rendered in a particular manner. and wherein selecting one of the licenses I 0 further comprises determining whether each valid corresponding license provides the right to render the digital content in the manner sought.

12 The method of claim 1 I further comprising passing, by the rendering application, the particular manner that the digital content is sought to be rendered to the DRM system.

I @
1 5 The method of claim 1 I further con...

...claim 13 wherein the acquiring of the license comprises acquiring the license from a remote license server by way of a communications network.

15 The method of claim 1 further comprising, after
t)
invoking the DRM system, calling, by the rendering application. the DRM system to
:n t@
decrypt the encrypted digital content.
16 Th.e...

...wherein locating each license in

the license store corresponding to the digital content to be rendered comprises acquiring, by the DRM system, a license corresponding to the digital content from a...

...claim 16 wherein the acquiring of the license comprises acquiring the license from a remote license server by way of a communications network.

18 The method of claim 1 wherein the digital...

...the license store having the content ID of the digital content.

19 A method for rendering digital content in an encrypted rights-protected form, the method comprising:

determining that the digital...

...content, locating each license in the license store corresponding to the digital content to be rendered ; selecting one of the located licenses : obtaining (KD) from the selected license : decrypting the digital content with (KD); and returning the decrypted digital content to the rendering application for actual rendering .

20 ...valid comprises examining the digital signature.

23. The method of claim 21 further comprising acquiring a valid license corresponding to the digital content from a license source if no valid license is found, placing the acquired license...

..23 NN-licrem the acquiring of the license comprises acquiring the license from a remote license server by way of a communications network.

25 The method of claim 21 wherein the...

...the digital content in the manner sought.

26 The method of claim 25 further comprising acquiring a rights-providing license corresponding to the digital content from a license source if no such rights-providing license is found, placing the

...
...claim 26 wherein the acquiring of the license comprises acquiring the license from a remote license server by way of a I O communications network.

28 The method of claim 19 wherein locating each license in the license store corresponding to the digital content to be rendered comprises acquiring a license corresponding to the digital content from a license source if no such license is found in the license store...

...claim 28 wherein the acquiring of the license comprises acquiring the license from a remote license server by way of a communications network. 0.
The method of claim 19 wherein the digital...

...Content-Key Database

20

Content ID

Key ID

Key (KD)

License Data

PU-LS, e Server 24 License 16 w/(KD) User's cc

PR-LS Devic

Issued License Architecture 10 .. @ack Box...

...CS) S (PR-CS) CERT (PU-LS) S (P

Fig. 3 Fig. 8

/12

Package Rendering
12p Application 34

.....
License Evaluator
Black Box 30
36
PU-BB, PR-BB
Machine
Info...
...32

System
Clock 46
User's Computing Device 14
.....
I-----

Fig. 4
/12
Attempt to Render - 501
IF
Check For DRM Protection - 503
 Render - 4 No cte
507 505
Y"
Run DRM
System 32 - 509
i
and-Over to...
...For'Valid, Enabling Licenses 16
In License Store 38 - 515
Acquire
License 16 na
from License
Server 24
Yes
4F
to Fig. 5B
/12
from Fig. 5A
Select Valid, Enabling License 16...
.to Black Box 30 - 521
PR-BB (PU-BB (KD)) = (KD) - 523
Hand-Over to Rendering Application 34 - 525
 Rendering Application 34 Assumes Control - 527
 Rendering Application 34 Calls Black
Box 30 to Decrypt DigFRI Content 12
According to Decryption Key (KD) - 529
i
Black Box 30 Authenticates Rendering
Application 34 - 531
1
Black Box 30 Decrypts - 533
 Rendering Application 34 Renders - 535
Fig. 5B
/12
Check License Store 38 for
Corresponding Licenses 16 - 601
Check Each...
...603
Acquire --*-No gnature
License 16 alid? -605
Yu
Check Each valid
License 16 for
 Rendering Rights
607

Acquire NO ny a d License
License 16 Grants Rights? - 61 9
y
Valid, Enabling
License 16
Fig. 6
/12
Contact License Server 24 - 701
Send License Request - 703
License Server 24 Checks Request Signature - 705
Error sm No gna ure
Valid? ! 707
Yes
License Server 24 Checks Black
Box 30 Version 709
Upgrade e b
Black Box 4 No ceptable...

16/3,K/45 (Item 4 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00745758 **Image available**
ENFORCEMENT ARCHITECTURE AND METHOD FOR DIGITAL RIGHTS MANAGEMENT
PROCEDE DE GESTION DES DROITS D'UTILISATION ELECTRONIQUE ET ARCHITECTURE A
CET EFFET

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MD MG MK MN MW NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA
UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

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Fulltext Word Count: 24964

Fulltext Availability:
Detailed Description
Claims

Detailed Description
... I 0 As with the authoring tool 18 and the content server 22, the
license
server 24 is implemented on an appropriate computer processor, or
other computing machine by way of...

...22 may reside on a single computer, processor, or other computing machine together with the license server 24, each in a separate work space.

In one embodiment of the present invention, prior to issuance of a license 16, the license server 24 and the content server 22 enter into an agency agreement or the like, wherein the license server 24 in effect agrees to be the licensing authority for at least a portion of

...one content server 22 may enter into an agency agreement or the like with several license servers 224, and/or one license server 24 may enter into an agency agreement or the like with several content servers 2""). all without departing from the spirit and scope of the present invention.

Preferably, the license server 24 can show to the world that it does in fact have the authority to...

...2 distributed by the content server 22. To do so, it is preferable that the license server 24 send to the content server 22 the license server 24 public key (PU-LS). and that the content server 22 then send to the license server 24 a digital certificate containing PU-LS as the contents signed by the content server...

...with a piece of digital content 12, and as part of the licensing function, the license server 24 must have access to the I 0 decryption key (KD) for such digital content 12. Accordingly, it is preferable that license server 24 have access to the content-key database 20 that has the decryption key (KD...)

...will be explained in more detail below.

As with the authoring tool 18, the content server 22. and the license server 24, the black box server 26 is implemented on an appropriate computer, processor, or other...

...detailed discussion in the present disclosure. Moreover, in one embodiment of the present invention the license server 24, the authoring tool 18, and/or the content server 22 may reside on a.i.e. that the digital content 12 will not be rendered unless the user obtains a license 16 that permits the rendering in the manner sought. Preferably, then, the user's computing device 14 must provide a...

...322 that can satisfy to the content owner that such computing device 14 will not render the digital content 12 except according to the license rules embodied in the license 1...

...that is enabled when a user requests that a piece of digital content 12 be rendered, that determines whether the user has a license 16 to render the digital content 12 in the manner sought. that effectuates obtaining such a license 16...

...content 12 according to the license 16, and that decrN7pts the digital content 12 for rendering purposes if in fact the user has such right according to such license 16...

...functions with the architecture 10 disclosed herein: (1) content acquisition, (2) license acquisition, (3) content rendering, and (4) black box 30 installation / update, Preferably, any of the functions can be performed...

...stored in a manner such that the obtained digital content 12 is accessible by a rendering application 34 (to be described below) running on the computing device 14, and by...

...easily acquired as any other data file.

However, the DRM system 32 and/or the rendering application 34 may include an interface (not shown) designed to assist the user in...

...known to be sources of digital content 12, and the like.

DRM SYSTEM 32 - Content Rendering , Part I
I 0 Referring now to Fig. 5A, in one embodiment of the present...

...computing device 14 in the form of a stored file, the user will attempt to render the digital content 12 by executing some variation on a render command (step 501). For example, such render command may be embodied as a request to 'play' or 'open' the digital content 12...
...on an icon representative of the digital content 12. Of course, other embodiments of such render command may be employed without departing from the spirit and scope of the present invention. In general, such render command may be considered to be executed whenever a user directs that a file...

...content 12 be opened, run, executed, and/or the like.

Importantly, and in addition, such render command may be embodied as a request to copy the digital content 12 to another...

...an audio form, etc. As should be understood, the same digital content 12 may be rendered in one form, such as on a computer screen, and then in another form, such as a printed document. In the present invention, each type of rendering is performed only if the user has the right to do so. as will be...computing device 14 can determine based on such extension to start a particular kind of rendering application 34. For example, if the file name extension indicates that the digital content 12 is a text file, the rendering application 3)4 'Is some form of word processor such as the "MICROSOFT WORD". distributed...

...indicates that the digital content 12 is an audio, video, and/or multimedia file, the rendering application 3)4 is some form of multimedia player, such as ".MICROSOFT MEDIA PLAYER", also distributed by MICROSOFT Corporation of Redmond, Washington.

Of course, other methods of determining a rendering application may be employed without departing from the spirit and scope of the present invention...

...e., the aforementioned header information), where the meta-data includes information on the type of rendering application 34 necessary to render such digital content 12.

Preferably, such rendering application 34 examines the digital content 12 associated with the file name and determines whether...

...rights-protected form (steps 503, 505). If not protected, the digital content 12 may be rendered without further ado (step 507). Unprotected, the rendering application 3)4 determines from the encrypted digital content 12 that the DRM system 32 is necessary to play such digital content 12. According to such rendering application 34 directs the user's computing device 14 to run the DRM system 32 thereon (step 509). Such rendering application 3)4 then calls such DRM system 32 to decrypt the digital content 12...

...in the valid license 16. Preferably, once the DRM system has been called by the rendering application 34, which DRM system 32 assumes control from the rendering application 3)4, at least for purposes of determining whether the user has...

...on the I 0 reviewed license rules whether the requesting user has the right to render the requested digital content 12 in the manner sought, among other things. As should be...

...the DRM system 3)2. In the present disclosure, to be 'trusted' means that the license server 24 (or any other trusting element) is satisfied that the trusted element will carry out...

...the license evaluator 36 determines that a user does in fact have the

Fig. 5B
SUBSTITUTE SHEET (RULE 26)
/12
Check License Store 38 for
Corresponding Licenses...
...No my igna
License -1 6 Valid? -6
Yes
Check Each valid
License 16 for
Rendering Rights
607
Acquire o*No alid License
License -1 6 nts Rights? - 6
Yes
IF
Valid, Enabling
License 16
Fig. 6
SUBSTITUTE SHEET (RULE 26)
/12
Contact License Server 24 - 701
Send License Request - 703
License Server 24 Checks Request Signature - 765
Error lo No- i na ure
Valid? - 707
Yes
License Server 24 Checks Black
Box 30 Version 709
Upgrade rsion
Black Box 4 No Ac ptable...

16/3,K/46 (Item 5 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
(c) 2005 WIPO/Univentio. All rts. reserv.

00745487 **Image available**
DIGITAL LICENSE AND METHOD FOR OBTAINING/PROVIDING A DIGITAL LICENSE
LICENCE NUMERIQUE ET PROCEDE PERMETTANT D'OBtenir/FOURNIR UNE LICENCE
NUMERIQUE

Patent Applicant/Assignee:

MICROSOFT CORPORATION, One Microsoft Way, Redmond, WA 98052, US, US
(Residence), US (Nationality)

Inventor(s):

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ENGLAND Paul, 16659 Northup Way, Bellevue, WA 98008, US,
GANESAN Krishnamurthy, 17345 NE 65th Way, Redmond, WA 98052, US,
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BLINN Arnold N, 9401 NE 27th Street, Bellevue, WA 98004, US,
JONES Thomas C, 23617 NE 6th Street, Redmond, WA 98053-3618, US,

Legal Representative:

ROCCI Steven J (et al) (agent), Woodcock Washburn Kurtz Mackiewicz &
Norris LLP, 46th Floor, One Liberty Place, Philadelphia, PA 19103, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200058859 A2-A3 20001005 (WO 0058859)

Application: WO 2000US4949 20000225 (PCT/WO US0004949)

Priority Application: US 99126614 19990327; US 99290363 19990412; US
2000482725 20000113

Designated States:

(Protection type is "patent" unless otherwise stated - for applications
prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB
GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA
MD MG MK MN MW NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA
UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English
Fulltext Word Count: 27773

Fulltext Availability:
Detailed Description
Claims

Detailed Description

Title of the Invention

DIGITAL LICENSE AND METHOD FOR OBTAINING / PROVIDING
A DIGITAL LICENSE

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of U.S. Patent Application...

...architecture that allows access to encrypted digital content only in accordance with parameters specified by license rights acquired by a user of the digital content.

BACKGROUND OF THE INVENTION

Digital rights management and enforcement is highly desirable in connection...

...board, an electronic network, the Internet, etc. Upon being received by the user, such user renders or 'plays' the digital content with the aid of an appropriate rendering device such as a media player on a personal computer or the like.

Typically, a...

...A need exists, then, for providing an enforcement architecture and method that allows the controlled rendering or playing of arbitrary forms of digital

I t:1 9
content, where...

...the content owner of such digital content. A need also exists for providing a controlled rendering environment on a computing device such as a personal computer. Nflicrc the reridering environment includes at least a portion of such enforcement architecture. Such controlled rendering environment allows that the digital content will only be rendered as specified by the

I content owner, even though the digital content is to be rendered on a computing device

p which is not under the control of the content...

...1
at the user's computing device or client machine.

When a user attempts to render the digital content on a computing device, the rendering application invokes a Digital Rights Management (DRM) system on such user's computing device. If the user is attempting to render the digital content for the first time, the DRM system either directs the user to a license server to obtain a license to render such digital content in the manner sought, or transparently obtains such license from such license server without any action necessary on the part of the user...

...and
- a digital signature that ensures the integrity of the license.

The user cannot decrypt and render the encrypted digital content without obtaining such a license from the license server. The obtained license is stored in a license store in the user's computing device.

Importantly, the license server only issues a license to a DRM system that is 'trusted' (i.e., that can authenticate itself). To implement...

...as provided by an approved certifying authority. The public key is made available to the license server for purposes of encrypting portions of the issued license. thereby binding such license to such...

...a black box server an updated secure black box when the user first requests a license . The black box server provides the updated black box, along with a unique public/private key pair. Such updated...

...the client machine sends the black box public key, version number, and signature to the license server , and such license server issues a license only if the version number is current and the signature is valid. A license request...

...a key ID that identifies the decryption key associated with the requested digital content. The license server uses the black box public key to encrypt the decryption key and tile decryption key...

...the downloaded license has been stored in the DRM system license store, the user can render the digital content according to tile rights conferred by the license and specified in the license terms. When a request is made to render the digital content, the black box is caused to decrypt the decryption key and license...

...the requestor is allowed to play such content. The decrypted content is provided to the rendering application for rendering

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary as well as the following detailed description...

...with the Digital Rights Management (DRM) system of the computing device of Fig. 4 to render content in accordance with one embodiment of the present invention;

Fig. 6 is a flow...

...system of Fig. 4 to validate a license and a piece of digital content and render the content in accordance with one embodiment of the present invention;

Fig. 1 is...license rules that must be satisfied before such digital content 12 is allowed to be rendered on a user's computing device 14. Such license rules are embodied within a digital architecture 10 includes an authoring tool 18, a content-key database 20, a content server 22, a license server 24, and a black box server 26. as well as the aforementioned user's computing...

...information are primarily employed by the user and the user's computing device 14 to obtain a license 16 to render the digital content 12. Accordingly, such accompanying instructions / rules / information may include an appropriately formatted license acquisition...or security issues. As discussed below, such issues are dealt with in connection with the license server 24 and the relationship between such license server 24 and the user's computing device 14. In one embodiment of the present invention...

...server 22 sending (KD (PU-CS) S (PR-CS)) to the authoring tool 18.

ARCHITECTURE - License Server 24

Referring again to Fig. 1, in one embodiment of the present invention, the license server 24 performs ...transmitted license 16 includes the decryption key (KD) for decrypting the digital content 12. Such license server 24 and such functions will be explained in more detail below.

Preferably, and like the content server 1-2, the license server 24 in the architecture 10 has a unique public / private key pair (PU-LS, PR

...be explained in more detail below.

As with the authoring tool 18 and the content server 22, the license server 24 is implemented on an appropriate computer, processor, or other computing machine by way of...

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In License Store 38 - 515
Acquire
License 16 na
@
from License License ?
Server 24
yes
to Fig. 5B
/12
from Fig. 5A
Select Valid, Enabling License 16 From...

...Box 30 - 521
PR-BB (PU-BB (KD)) = (KD) - 523
1 1
Hand-Over to Rendering Application 34 525
Rendering Application 34 Assumes Control - 527
i
Rendering Application 34 Calls Black
Box 30 to Decrypt Digital Content 12
According to Decryption Key (KD) - 529
Black Box 30 Authenticates Rendering
Application 34 531
Black Box 30 Decrypts 533
Rendering Application 34 Renders - 535
Figs 513
/12
Check License Store 38 for
Corresponding Licenses 16 - 601
IF
Check...

...603
Acquire Any gna re
License 16 alid
yes
Check Each valid
License 16 for
Rendering Rights
607
Acquire Any Valid Li nse
License 16 Grants Rights? - 6
yes
Valid, Enabling
License 16
Fig* 6
/12
Contact License Server 24 - 701
Send License Request - 703
Licens Server 24 Checks Request Signature - 705
igna u
Error 40 NO 707
y"
License Server 24 Checks Black
Box 30 Version 709
Upgrade Version
Black Box *---No - 71
30
Yu...

16/3,K/47 (Item 6 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00745441 **Image available**
STRUCTURE OF DIGITAL RIGHTS MANAGEMENT (DRM) SYSTEM
STRUCTURE DE SYSTEME DE GESTION DES DROITS DE CONTENUS NUMERIQUES
Patent Applicant/Assignee:
MICROSOFT CORPORATION, One Microsoft Way, Redmond, WA 98052, US, US
(Residence), US (Nationality)
Inventor(s):

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ABBURI Rajasekhar, 7844 NE 10th Street, Medina, WA 98039, US,
BELL Jeffrey R C, 107 N. 67th Street, Seattle, WA 98013, US,

Legal Representative:

ROCCI Steven J (et al) (agent), Woodcock Washburn Kurtz Mackiewicz & Norris LLP, 46th floor, One Liberty Place, Philadelphia, PA 19103, US,

Patent and Priority Information (Country, Number, Date):

Patent: WO 200058811 A2-A3 20001005 (WO 0058811)

Application: WO 2000US5091 20000225 (PCT/WO US0005091)

Priority Application: US 99126614 19990327; US 99290363 19990412; US 2000482932 20000113

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW

(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE

(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

(AP) GH GM KE LS MW SD SL SZ TZ UG ZW

(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 22512

Fulltext Availability:

Detailed Description

Claims

English Abstract

...a computing device when a user requests that a protected piece of digital content be **rendered** by the computer device in a particular manner. The DRM system has a license store...

...determining based on such reviewed license rules whether such license enables the requesting user to **render** the requested digital content in the manner sought. The state store maintains state information corresponding...

Detailed Description

... architecture that allows access to encrypted digital content only in accordance with parameters specified by license rights acquired by a user of the digital content.

BACKGROUND OF THE INVENTION

Digital rights management and enforcement is highly desirable in connection...

...board, an electronic network,, the Internet, etc. Upon being received by the user, such user **renders** or 'plays' the digital content with the aid of an appropriate rendering device such as a media player on a personal computer or the like.

Typically, a...

...A need exists, then', for providing an enforcement architecture and method that allows the controlled rendering or playing of arbitrary forms of digital content, where such control is flexible and definable...

...the content owner of such digital content. A need also exists for, providing a controlled rendering environment on a computing device such as a personal computer. where the rendering environment includes at least a portion of such enforcement architecture. Such controlled rendering environment allows that the digital content will only be **rendered** as specified by the content owner, even though the digital content is to be **rendered** on a computing device which is not under the control of the content owner.

Further...

...license at the user's computing device or client machine.

when a user attempts to render the digital content on a computing device, the rendering application invokes a Digital Rights Management (DRM) system on such user's computing device. If the user is attempting to render the digital content for the first time, the DRM system either directs the user to a license server to obtain a license to render such digital content in the manner sought or transparently obtains such license from such license server without any action necessary on the part of the user. The license includes.

- a decryption...
...a digital signature that ensures the integrity of the license.

The user cannot decrypt and render the encrypted digital content without obtaining such a license from the license server. The obtained license is stored in a license store 10 in the user's computing device.

Importantly, the license server only issues a license to a DRM system that is 'trusted' (i.e., that can authenticate itself). To implement...

...as provided by an approved certifying authority. The public key is made available to the license server for purposes of encrypting portions of the issued license, thereby binding such license to such...

...a black box server an updated secure black box when the user first requests a license. The black box server provides the updated black box, along with a unique public/private key pair. Such updated...

...the client machine sends the black box public key, version number, and signature to the license server, and such license server issues a license only if the version number is current and the signature is valid. A license request...

...a key ID that identifies the decryption key associated with the requested digital content. The license server uses the black box public key to encrypt the decryption key, and the decryption key...

...the downloaded license has been stored in the DRM system license store, the user can render the digital content according to the rights conferred by the license and specified in the license terms. When a request is made to render the digital content, the black box is caused to decrypt the decryption key and license...

...the requestor is allowed to play such content. The decrypted content is provided to the rendering application for rendering.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the following detailed description...

...with the Digital Rights Management (DRM) system of the computing device of Fig. 4 to render content in accordance with one embodiment of the present invention;
Fig. 6 is a flow...

...system of Fig. 4 to validate a license and a piece of digital content and render the content in accordance with one embodiment of the present invention;
Fig. 11 is...license rules that must be satisfied before such digital content 12 is allowed to be rendered on a user's computing device 14. Such license rules are embodied within a digital...architecture 10 includes an authoring tool 18, a content-key database 20, a content server 22, a license server 24, and a black box server 26, as well as the aforementioned user's computing...

...information are primarily employed by the user and the user's computing device 14 to obtain a license 16 to render the digital content 12. Accordingly, such accompanying instructions / rules information may include an appropriately formatted license acquisition script...or security issues. As discussed below, such issues are dealt with in

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...16
In License Store 38 - 51 5
Acquire
License 16 .4 NO a , Enablin
from License License ? - 51
Server 24
Yes
IIF
to Fig. 5B
/12
from Fig. 5A
Select Valid, Enabling License 16 Hand-Over to Rendering Application 34
- 525
Rendering Application 34 Assumes Control - 527
Rendering Application 34 Calls Black
Box 30 to Decrypt DigfRal Content 12
AccorTing to Decryption Key (KD) -@R9
1
Black Box 30 Authenticates Rendering
A7pplication 34 - 531
Black Box 30 Decrypts - 533
Rendering Application 34 Renders - 535
Fig. 5B
/12
Check License Store 38 for
Corresponding Licenses 16 - 601
Check Each...

...my na ure
License 16 alid? -605
Y"
4
Check Each valid
License 16 for
Rendering Rights
607
Acquire ny valid License
License 16 -4440 rants Rights? - 6b79
yes
Valid, Enabling
License 16
Fig. 6
/12
Contact License Server 24 - 701
Send License Request - 703
License Server 24 Checks Request Signature 705
Error md NO gna re
alid? - 707
Y93
License Server 24 Checks Black
Box 30 Version 709
Upgrade on
Black Box,, No
LO I
Y...

16/3,K/48 (Item 7 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00745440 **Image available**
STRUCTURE OF A DIGITAL CONTENT PACKAGE
STRUCTURE D'UN PAQUET A CONTENU NUMERIQUE
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Inventor(s):
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BLINN Arnold N, 9401 N.E. 27th Street, Bellevue, WA 98004, US,

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JONES Thomas C, 23617 N.E. 6th Street, Redmond, WA 98053-3618, US,
Legal Representative:
ROCCI Steven J (et al) (agent), Woodcock Washburn Kurtz Mackiewicz &
Norris LLP, One Liberty Place, 46th Floor, Philadelphia, PA 19103, US,
Patent and Priority Information (Country, Number, Date):
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Application: WO 2000us4972 20000225 (PCT/WO US0004972)
Priority Application: US 99126614 19990327; US 99290363 19990412; US
2000482843 20000113

Designated States:

(Protection type is "patent" unless otherwise stated - for applications prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB
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MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA
UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
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(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

Publication Language: English

Filing Language: English

Fulltext Word Count: 21147

Fulltext Availability:

Detailed Description
Claims

Detailed Description

... architecture that allows access to encrypted digital content only in accordance with parameters specified by license rights acquired by a user of the digital content.

1 5 BACKGROUND OF THE INVENTION

Digital rights management and enforcement is highly desirable...

...board, an electronic network, the Internet. etc. Upon being received by the user, such user renders or 'plays' the digital content with the aid of an appropriate rendering device such as a media plaver on a personal computer or the like.

Typically, a...

...A need exists, then, for providing an enforcement architecture and method that allows the controlled rendering or playing of arbitrary forms of digital content, where such control is flexible and definable...

...the content owner of such digital content. A need also exists for providing a controlled rendering environment on a computing device such as a personal con-iputer. where the rendering environment includes at least a portion of such enforcement architecture. Such controlled rendering environment allows that the digital content will only be rendered as specified by the content owner, even though the digital content is to be rendered on a computing device which is not under the control of the content owner.

Further...

...license at the user's computing device or client machine.

When a user attempts to render the digital content on a computing device, the rendering application invokes a Digital Rights Management (DRM) system on such user's computing device. If the user is attempting to render the digital content for the first time, the DRM system either directs the user to a license server to obtain a license to render such digital content in the manner sou(Tht. or transparently obtains

z1

such license from such license server without aiiv action necessary on the part of the user. The license includes.

- a decryption...

...digital signature that ensures the integrity of the license.

The user cannot decrypt and render the encrypted digital content without obtaining such a license from the license server. The obtained license is stored in a license store 10 in the user's computing device.

Importantly, the license server only issues a license to a DRM system that is 'trusted' (i.e., that can authenticate itself). To implement...

...as provided by an approved certifying authority. The public key is made available to the license server for purposes of encrypting portions of the issued license, thereby binding such license to such...

...a black box server an updated secure black box when the user first requests a license. The black box server provides the updated black box, along with a unique public/private key pair. Such updated...

...client machine sends the black box public key, version number, and signature to the license server. and such license server issues a license only if the version number is current and the signature is valid. A license request...

...a key ID that identifies the decryption key associated with the requested digital content. The license server uses the black box public key to encrypt the decryption key, and the decryption key...

...the downloaded license has been stored in the DRM system license store, the user can render the digital content according to the rights conferred by the license and specified in the license terms. When a request is made to render the digital content, the black box is caused to decrypt the decryption key and license...

...the requestor is allowed to play such content. The decrypted content is provided to the rendering application for rendering.

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the following detailed description...

...with the Digital Rights Management (DRM) system of the computing device of Fig. 4 to render content in accordance with one embodiment of the present

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invention;

Fig. 6 is...

...system of Fig. 4 to validate a license and a piece of digital content and render the content in accordance with one embodiment of the present invention;

Fig. I I is...license rules that must be satisfied before such digital content 12 is allowed to be rendered on a user's computing device 14. Such license rules are embodied within a digital...the architecture 10 includes an authoring tool 18, a content-key database 20, a content server 22, a license server 24, and a black box server 26, as well as the aforementioned user's computing...

...information are primarily employed by the user and the user's computing device 14 to obtain a license 16 to render the digital content 12. Accordingly, such accompanying instructions / rules / information may include an appropriately formatted license acquisition...or security issues. As discussed below, such issues are dealt with in connection with the license server 24 and the relationship between such license server 24 and the user's computing device 14. In one embodiment of the present invention...

...server 22 sending (KD (PU-CS) S (PR-CS)) to the authoring tool 18.

ARCHITECTURE - License Server 24

Referring again to Fig. I . in one embodiment of the present invention, the license server 24 performs the functions of receiving a request for a license 16 from a user...

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Run DRIVI
System 32 - 509
Hand-Over to...

...Enabling Licenses 16
In License Store 38 - 515
Acquire
License 16 41 No na
from License license?
Server 24
Yes
4r
to Fig. 5B
/12
from Fig. 5A
Select Valid, Enabling License 16...

...Black Box 30 - 521
PR-BB (PU-BB (KD)) = (KD) - 523
1
Hand-Over to Rendering Application 34 - 525
Rendering Application 34 Assumes Control - 527
Rendering Application 34 Calls Black
Box 30 to Decrypt Digital Content 12
According to Decryption Key (KD) - T29
Black Box 30 Authenticates Rendering
Application 34 - 531
Black Box 30 Decrypts - 533
Rendering Application 34 Renders - 535
Figs 5B
/12
Check License Store 38 for
Corresponding Licenses 16 - 601
Check Each...

...Acquire 44 No. signature
License 16 Valid? -605
Yu
Check Each valid
License 16 for
Rendering 'f@ights
607
Acquire No Any Valid License
License 16 wants Rights? - 6b9
yes
Valid, Enabling
License 16
Fig. 6
/12
Contact
t License Server 2.4 - 701
Send License Request - 703
License Server 24 Checks Request Signature - 705
Error No g a
Valid? ! 707
Yes
License Server 24 Checks Black
Box 30 Version 709
Upgrade e io
Black Box 4 No Acceptable...

16/3,K/49 (Item 8 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00744696 **Image available**
METHOD FOR OBTAINING A BLACK BOX FOR PERFORMING DECRYPTION AND ENCRYPTION
FUNCTIONS IN A DIGITAL RIGHTS MANAGEMENT (DRM) SYSTEM
PROCEDE D'OBTENTION D'UNE BOITE NOIRE PERMETTANT D'EXECUTER DES FONCTIONS
DE DECRYPTAGE ET DE CRYPTAGE DANS UN SYSTEME NUMERIQUE DE GESTION DES
DROITS (DRM)

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Patent and Priority Information (Country, Number, Date):

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Application: WO 2000US4946 20000225 (PCT/WO US0004946)
Priority Application: US 99126614 19990327; US 99290363 19990412; US
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prior to 2004)

AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB
GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA
MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA
UG UZ VN YU ZA ZW
(EP) AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
(OA) BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG
(AP) GH GM KE LS MW SD SL SZ TZ UG ZW
(EA) AM AZ BY KG KZ MD RU TJ TM

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Fulltext Word Count: 23464

Fulltext Availability:

Detailed Description
Claims

Detailed Description

... architecture that allows access to encrypted digital content only in
accordance with parameters specified by license rights acquired by a
user of the digital content.

BACKGROUND OF THE INVENTION

Digital rights management and enforcement is highly desirable in
connection...

...board, an electronic network, the Internet, etc. Upon being received by
the user, such user renders or 'plays' the digital content with the aid
of an appropriate rendering device such as a media player on a personal
computer or the like.

Typically, a...

...A need exists, then, for providing an enforcement architecture and
method that allows the controlled rendering or playing of arbitrary
forms of digital content, where such control is flexible and definable...

...the content owner of such digital content. A need also exists for
providing a controlled rendering environment on a computing device such
as a personal computer, where the rendering environment includes at
least a portion of such enforcement architecture. Such controlled
rendering environment allows that the digital content will only be
rendered as specified by the content owner, even though the digital
content is to be rendered on a computing device which is not under the
control of the content owner.

Further...

...license at the user's computing device or client machine.

When a user attempts to render the digital content on a computing
device, the rendering application invokes a Digital Rights Management
(DRM) system on such user's computing device. If the user is attempting
to render the digital content for the first time, the DRM system either

directs the user to a license server to obtain a license to render such digital content in the manner sought., or transparently obtains such license from such license server without any action necessary on the part of the user. The license includes.

- a decryption...

...a digital signature that ensures the integrity of the license. The user cannot decrypt and render the encrypted digital content without obtaining 10 such a license from the license server . The obtained license is stored in a license store in the user's computing device.

Importantly, the license server only issues a license to a DRM system that is 'trusted' (i.e., that can authenticate itself). To implement...

...as provided by an approved certifying authority. The public key is made available to the license server for purposes of encrypting portions of the issued license, thereby binding such license to such...

...a black box server an updated secure black box when the user first requests a license . The black box server provides the updated black box, along with a unique public/private key pair. Such updated...

...the client machine sends the black box public key, version number, and signature to the license server , and such license server issues a license only if the version number is current and the signature is valid. A license request...

...a key ID that identifies the decryption key associated with the requested digital content. The license server uses the black box public key to encrypt the decryption key, and the decryption key...

...the downloaded license has been stored in the DRM system license store, the user can render the digital content according to the rights conferred by the license and specified in the license terms. When a request is made to render the digital content, the black box is caused to decrypt the decryption key and license...

...the requestor is allowed to play such content. The decrypted content is provided to the rendering application for rendering .

BRIEF DESCRIPTION OF THE DRAWINGS

The foregoing summary, as well as the following detailed description...

...with the Digital Rights Management (DRM) system of the computing device of Fig. 4 to render content in accordance with one embodiment of the present invention;

Fig. 6 is a...

...system of Fig. 4 to validate a license and a piece of digital content and render the content in accordance with one embodiment of the present invention;

Fig. 11 is...license rules that must be satisfied before such digital content 12 is allowed to be rendered on a user's computing device 14. Such license rules are embodied within a digital...the architecture 10 includes an authoring tool 18, a content-key database 20, a content server 22, a license server 24, and a black box server 26. as we] I as the aforementioned user's...

...information are primarily employed by the user and the user's computing device 14 to obtain a license 16 to render the digital content 12. Accordingly, such accompanying instructions / rules information may include an appropriately formatted license acquisition...or security issues. As discussed below, such issues are dealt with in connection with the license server 24 and the relationship between such license server 24 and the user's computing device 14. hi one embodiment of the present invention...

...server 22 sending (KD (PU-CS) S (PR-CS)) to the authoring tool 18.

ARCHITECTURE - License Server 24

Referring again to Fig. 1, in one embodiment of the present invention, the license server 24 performs the functions of receiving a request for a license 16 from a user...

...transmitted license 16 includes the decryption key (KD) for decrypting the digital content 12. Such license server 24 and such functions will be explained in more detail below.

Preferably, and like the content server 22, the license server 24 in the architecture 10 has a unique public / private key pair (PU-LS, PR ...

...in more detail below.

I 0 As with the authoring tool 18 and the content server 22, the license server 24 is implemented on an appropriate computer, processor, or other computing machine by way of...

...22 may reside on a single computer, processor, or other computing machine together with the license server 24, each in a separate work space.

In one embodiment of the present invention, prior to issuance of a license 16, the license server 24 and the content server 212 enter into an agency agreement or the like, wherein the license server 24 in effect agrees to be the licensing authority for at least a portion of ...

...one content server 22 may enter into an agency agreement or the like with several license servers 24, and/or one license server 24 may enter into an agency agreement or the like with several content servers 22, all without departing from the spirit and scope of the present invention.

Preferably, the license server 24 can show to the world that it does in fact have the authority to...

...12 distributed by the content server 22. To do so, it is preferable that the license server 24 send to the content server 22 the license server 24 public key (PU-LS), and that the content server 22 then send to the license server 24 a digital certificate containing PU-LS as the contents signed by the content server...

...with a piece of digital content 12, and as part of the licensing function, the license server 24 must have access to the I 0 decryption key (KD) for such digital content 12. Accordingly, it is preferable that license server 24 have access to the content-key database 20 that has the decryption key (KD...).

...will be explained in more detail below.

As with the authoring tool 18, the content server 22, and the license server 24, the black box server 26 is implemented on an appropriate computer, processor, or other...

...detailed discussion in the present disclosure. Moreover, in one embodiment of the present invention the license server 24, the authoring tool 18, and/or the content server 22 may reside on a...such content owner, i.e. that the digital content 12 will not be rendered unless the user obtains a license 16 that permits the rendering in the manner sought. Preferably, then, the user's computing device 14 must provide a...

...32 that can satisfy to the content owner that such computing device 14 will not render the digital content 12 except according to the license rules embodied in the license 16...

...that is enabled when a user requests that a piece of digital content 12 be rendered, that determines whether the user has a license 16 to render the digital content 12 in the manner sought, that effectuates obtaining such a license 16...

...content 12 according to the license 16, and that decrypts the digital content 12 for rendering purposes if in fact the user has such right according to such license 16. The...

...functions with the architecture 10 disclosed herein: (1) content acquisition, (2) license acquisition, (3) content rendering, and (4) black box 3)0 installation / update. Preferably, any of the functions can be...

...stored in a manner such that the obtained digital content 12 is accessible by a rendering application 3)4 (to be described below) running on the computing device 14. and by...
...easily acquired as any other data file.

However, the DRM system 32 and/or the rendering application 34 may include an interface (not shown) designed to assist the user in obtaining ...

...known to be sources of digital content 12, and the like.

DRM SYSTEM 32 - Content Rendering , Part I
Referring now to Fig. 5A, in one embodiment of the present invention, assuming...

...computing device 14 in the form of a stored file, the user will attempt to render the digital content 12 by executing some variation on a render command (step 501). For example, such render command may be embodied as a request to 'play' or 'open' the digital content 12...

...representative of the digital content 12. of course, other embodiments of such render command may be employed without departing from the spirit and scope of the present invention. In general, such render command may be considered to be executed whenever a user directs that a file having...

...content 12 be opened, run, executed, and/or the like.

Importantly, and in addition, such render command may be embodied as a request to copy the digital content 12 to another...

...an audio form, etc. As should be understood, the same digital content 12 may be rendered in one form, such as on a computer screen, and then in another form, such as a printed document. In the present invention, each type of rendering is performed only if the user has the right to do so, as will be...computing device 14 can determine based on such extension to start a particular kind of rendering application 34. For example, if the file name extension indicates that the digital content 12 is a text file, the rendering application 34 is some form of word processor such as the "MICROSOFT WORD", distributed by...

...indicates that the digital content 12 is an audio, video, and/or multimedia file, the rendering application 34 is some form of multimedia player, such as "MICROSOFT MEDIA PLAYER", also distributed by MICROSOFT Corporation of Redmond, Washington.
I O Of course, other methods of determining a rendering application may be employed without departing from the spirit and scope of the present invention...

...e., the aforementioned header information), where the meta-data includes information on the type of rendering application 34 necessary to render such digital content 12.

Preferably, such rendering application 3) 4 examines the digital content 12 associated with the file name and determines...

...rights-protected form (steps 503, 505). If not protected, the digital content 12 may be rendered without further ado (step 507). If protected, the rendering application 34 determines from the encrypted

R29
Black Box 30 Authenticates Rendering
Application 34 - 531
Black Box 30 Decrypts - 533
Rendering Application 34 Renders - 535
Fig. 5B
/12
Check License Store 38 for
Corresponding Licenses 16 - 601
IF --
Check...

...No my gnature
License 16 Valid? -605
Y"
Ilr
Check Each valid
License 16 for
Rendering ights
607
Acquire my alid i ense
License 16 Grants Rights? - 609
y
Valid, Enabling
License 16
Fig. 6
/12
Contact License Server 24 . 701
Send License Request - 703
License Server 24 Checks Request Signature - 705
ErTor mo No g
Valid? 707
Yes
License Server 24 Checks Black
Box 30 Version 709
Upgrade ersi()
Black Box o No A ceptable...

16/3,K/50 (Item 9 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00556009 **Image available**
ON-LINE POSTAGE SYSTEM
SYSTEME D'AFFRANCHISSEMENT EN LIGNE
Patent Applicant/Assignee:
STAMPS COM INC,
Inventor(s):
ANANDA Mohan,
Patent and Priority Information (Country, Number, Date):
Patent: WO 200019382 A1 20000406 (WO 0019382)
Application: WO 99US22074 19990923 (PCT/WO US9922074)
Priority Application: US 98163993 19980929
Designated States:
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AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB
GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD
MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ
VN YU ZA ZW GH GM KE LS MW SD SL SZ TZ UG ZW AM AZ BY KG KZ MD RU TJ TM
AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM
GA GN GW ML MR NE SN TD TG
Publication Language: English
Fulltext Word Count: 25709

Fulltext Availability:
Detailed Description

Detailed Description
... is stored in a license token, and is sorted in a database controlled by a license server. To access a program, the license server

locates the correct license token for a software application and transmits the license token to a license library. The the license server . Thus, only a single application can be breached by unauthorized cracking of an encrypted application...the purchased amount of postage.

Indicium print/authentication/monitoring module 1307 authenticates the request and generates image information for printing a postal indicium for the purchased amount so that PSD server 1212...line printing applications. For example, the secure on-line printing system can have a server generate images of checks, tickets, coupons or certificates and transmit them to a user computer for printing...IBM Advantis Network 23600. IBM Advantis Network 23600 is utilized to deliver and process user license information communicated between server system 180 and the USPS central meter licensing system (CMLS). Citibank Lock Box System 23500...Service (USPS). In an embodiment of the invention, client software 100 allows a user to electronically apply for the meter license and obtain a license. The software enables the user to apply for a new meter license, update...

...approval or rejection information. At step 2660 server 200 updates its database. At step 2670 server 200 communicates the license information to client software 100. If the license is approved at step 2630 the user...be used for other secure server based client printing applications. For example, the server can generate images of checks, tickets, coupons,, or certificates and transmit them securely to a client for printing...

16/3,K/51 (Item 10 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00530625 **Image available**

SYSTEM FOR VISUALIZING ITEMS IN USER-PROVIDED ENVIRONMENT
SYSTEME DE VISUALISATION D'ITEMS DANS UN ENVIRONNEMENT FOURNI PAR
L'UTILISATEUR

Patent Applicant/Assignee:
VISUAL APPLICATIONS INC,

Inventor(s):

SALAS Richardo,
DREIS Roberta L,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9961977 A1 19991202

Application: WO 99US11624 19990526 (PCT/wo US9911624)

Priority Application: US 9887670 19980527

Designated States:

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AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE
GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK
MN MW NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU
ZA ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH
CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW
ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 107504

Fulltext Availability:

Detailed Description

Detailed Description

... may not necessarily have a rectangular shape, such as a sofa. Parts of the background image 55, not foreclosed by "solid" aspects of the item image 4, are "painted" to the exemplary sofa image object 25 in order to achieve the...the picture control buffer 138 to another picture control buffer 139 structured to process the composite image 137, such as with the BITBLT function,

I 0 as the subject item image 4...displaying the desired additional pertinent information.

Substantially all available processes for modifying and manipulating item images 4 from local databases 13, as disclosed in the incorporated '944 reference, are also supported...1, being structured to accordingly respond to the association tag, generates and displays the control image 27 with the slider portion 223 which, as aforesaid, enables the user to select any...

16/3,K/52 (Item 11 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT
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00530617

COMPUTER PROGRAMMING SYSTEM FOR AUTOMATICALLY ADJUSTING OPERATING PROGRAMS TO CHANGES IN THE DATA AND STRUCTURE OF AN ASSOCIATED DATABASE
SYSTEME DE PROGRAMMATION INFORMATIQUE ADAPTANT AUTOMATIQUEMENT DES PROGRAMMES DE MISE EN OEUVRE AUX CHANGEMENTS SURVENUS AUX DONNEES ET A LA STRUCTURE D'UNE BASE DE DONNEES ASSOCIEE

Patent Applicant/Assignee:
TELSOFT CONSULTANTS INC,

Inventor(s):

MCALLUM Gregory R,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9961969 A2 19991202

Application: WO 99US11760 19990527 (PCT/WO US9911760)

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AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG UZ VN YU ZW GH GM KE LS MW SD SL SZ UG ZW AM AZ BY KG KZ MD RU TJ TM AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN GW ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 7490

Fulltext Availability:

Detailed Description

Detailed Description

... application program 46 is accomplished.

Providing a database monitor 51 is preferred so that each OCX module 50 need not continuously read the system tables 48 to detect when any changes are made. The database monitor 51, therefore, renders the system more efficient by notifying each OCX module 50 when it is appropriate to read the system tables 48 and then to...

16/3,K/53 (Item 12 from file: 349)

DIALOG(R)File 349:PCT FULLTEXT
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00373344 **Image available**

SYSTEM AND METHODS FOR MANAGING DIGITAL CREATIVE WORKS
SYSTEME ET PROCEDES DE GESTION D'OEUVRES DE CREATION NUMERIQUES

Patent Applicant/Assignee:

ERICKSON John S,

Inventor(s):

ERICKSON John S,

Patent and Priority Information (Country, Number, Date):

Patent: WO 9714087 A1 19970417

Application: WO 96US16348 19961011 (PCT/WO US9616348)

Priority Application: US 95543161 19951013; US 9625485 19960829

Designated States:

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Ginger R. DeMille

the container, means for rendering the work.

9

3. A method according to claim 2, wherein the step of integrating means for rendering the work further comprises the step of integrating, with the container, means for printing ...13

4. A method according to claim 2, wherein the step of integrating means for rendering the work further comprises the step of integrating, with the container, means for copying the...

...17

5. A method according to claim 2, wherein the step of integrating means for rendering the work further comprises the step of integrating, with the container, means for viewing the...of the container through on-line communication comprises utilizing a file data stream s wherein rendering of the work is possible only after all data representative of the work is present...

...of the container through on-line communication comprises utilizing a continuous data 3 stream wherein rendering of the work is possible, in part, with concurrent arrival, at 4 the computer, of...is an authorized user, the step of verifying occurring before 6 the computer requests a license to the server .

27

8 98. A method according to claim 97, wherein the step of verifying includes...137. A system according to claim 136, further comprising (A) means for electronically transacting a license with the server , and (B) means for receiving, from the server, auxiliary permission to utilize the media.

4...

16/3,K/54 (Item 13 from file: 349)
DIALOG(R)File 349:PCT FULLTEXT
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00344642

SYSTEMS AND METHODS FOR SECURE TRANSACTION MANAGEMENT AND ELECTRONIC RIGHTS PROTECTION
SYSTEMES ET PROCEDES DE GESTION SECURISEE DE TRANSACTIONS ET DE PROTECTION ELECTRONIQUE DES DROITS

Patent Applicant/Assignee:

ELECTRONIC PUBLISHING RESOURCES INC,

Inventor(s):

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SPAHN Francis J,
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Patent and Priority Information (Country, Number, Date):

Patent: WO 9627155 A2 19960906

Application: WO 96US2303 19960213 (PCT/WO US9602303)

Priority Application: US 95388107 19950213

Designated States:

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AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE
KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE
SG SI SK TJ TM TR TT UA UG UZ VN KE LS MW SD SZ UG AZ BY KG KZ RU TJ TM
AT BE CH DE DK ES FR GB GR IE IT LU MC NL PT SE BF BJ CF CG CI CM GA GN
ML MR NE SN TD TG

Publication Language: English

Fulltext Word Count: 207972

Fulltext Availability:

Detailed Description

Detailed Description

... and entertainment to homes and businesses. The owners and marketers of this content include software developers , motion picture -and recording companies, publishers

of books, magazines, and newspapers, and information database providers. The popularization...of limited
- 5 function rights protection mechanisms to protect their rights.

Authorization passwords and protocols, license servers , "lock/unlock" distribution methods, and non-electronic contractual limitations imposed on users of shrink-wrapped...or other commercial rights related to, electronic information. VDE can support "real" commerce in an electronic form, that is the progressive creation of commercial relationships that form, over time, a network...said extracted content, such as material authored by the extractor and/or content (for example, images , video, audio, and/or text) extracted from one or more other VDE container objects for...C electronic legal contracts; C distribution of 'content' such as electronic printed matter, video, audio, images and computer program ; and C secure communication of private information such as medical records and...and/or other event indicates the possibility of tampering, SPU 500 may automatically destroy, or render . accessible without privileged intervention, one or more portions of sensitive information it stores, such as...SVC.UNLOAD (void)
This UNLOAD interface call is called by a IRPC manager 732 during shutdown or resource reallocation of rights operating system 602. It permits a service to close any...an SPE 'Terminate InterfaceDriver Call.

SPE-terminate.interface (void)
In the preferred embodiment, this function shuts down SPE Driver 736, clears all notification addresses, and terminates all outstanding requests between an SPE...

...driver 736 should be performed by ROS 602 when the operating system is starting to shut down . It may also be necessary to issue this call if an SPE 503 and ROS...Thus, SPE 503 operating in a multi-tasking mode may have one or more tasks " sleeping ." In the simplest form, this involves an active task that is currently processing, and another...

...e.g., a control task under which the active task may be running) that is " sleeping " and is "swapped out" of active execution space. Kernel/dispatcher 522 may swap out tasks...

...service interrupt queues 588 to help it manage the "swap blocks".

RUN queue
SWAP queue
SLEEP queue.

Those tasks that are completely loaded in the execution space and are waiting for...

...other than processor cycles or are not needed at the moment) are referenced in the SLEEP queue.

Kernel/dispatcher task manager 576 may, for example, transition tasks between the ...329 executes the task. Kernel/dispatcher 552 task manager 576 may transition tasks between the SLEEP queue and the "awake" (i.e., RUN or SWAP) queues as needed.

when two or...

...processing concurrently with other processing. For example, real-time feed processing might have to be shut down in order to audit budgets and meters associated with the monitoring process.

- 331
One way...

Ginger R. DeMille

?